THE FARM INDEX

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Announcing the 1971 National Agricultural Outlook Conference.

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Sponsors: Economic Research Service and Federal Extension Service.

Agenda: Prospects for commercial agriculture and probable effects of new farm legislation and programs; also the general economy, commodity outlook, rural changes, and foreign situation.

Beef for all seasons. All in all, the price for beef carcasses gyrates around the seasonal supply of cattle. But talking about *beef cuts,* seasonal preferences of consumers don't necessarily jibe with seasonal supplies.

In spring and summer, demand generally perks up for higher-value cuts like steaks and roasts, and wanes for lower-value items such as stew meats and pot roasts.

Taking the four principal primal cuts—the chuck, rib, loin, and round—prices of chucks (generally the lowest value primal cut) and loins (the highest value) show the greatest seasonal variations at the wholesale level.

Rib cuts are the exception. The wholesale price usually drops sharply right after Christmas, and then gradually rises.

The lard pail. At a brimming 2 billion pounds, lard supplies for this marketing year (Oct.-Sept.) are estimated at 8 percent above the 1969/70 level.

Stepped up hog slaughter is more than counterbalancing the steady trend toward leaner animals. Average lard yield per hog, 22 pounds in 1969/70, has dropped 10 pounds since the mid-1950's. But pork yield is up over 20 pounds to an average 155 pounds.

Poundage added to '71 lard supplies is likely to be absorbed in shortening manufacture. (Lard prices in recent weeks have been below prices of competitive soybean oil.)

Export prospects aren't quite as good as last year, when sales abroad rose 40 percent to reach 405 million pounds. A 1-cent-per-pound export payment for lard exports to the U.K.—still in effect —was a stimulant.

Farmers' prospectus. Last year's *net income* is now estimated near the 1969 figure of $16.2 billion. However, the second half of 1970 was not as good as the first half. Prospects early this year indicate continuing pressure on farm income as rising expenses are likely to more than offset any gain in gross income.

The farmer's share of the consumer's food dollar is projected to average 38 cents in the first half of '71. If realized, this would be 2 cents less than in the first half of '70.

New Year's intentions. A special poll of farmers' planting intentions—as of New Year's Day 1971—is 3 months ahead of the regular planting survey. The canvass by USDA's Statistical Reporting Service will cover 35 States and indicate planted acreage intended for feed grains, spring wheat, soybeans, and cotton.

Livestock prices. Prices paid for livestock in the first half of 1971 are expected to be steady to strong but to continue below levels of a year earlier for most classes.

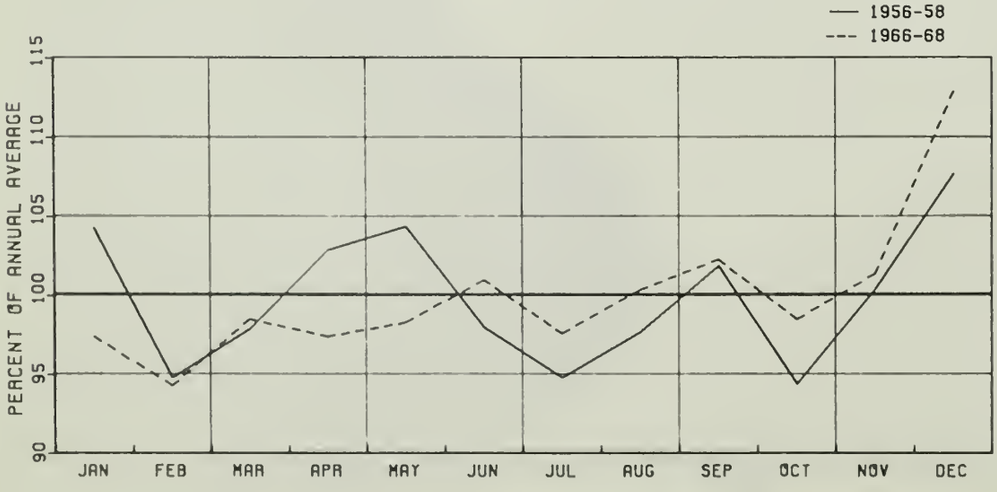
Beef cattle. Fed cattle prices are unlikely to show significant change until spring. Continued large fed beef output and abundant pork supplies will tend to keep pressure on cattle prices this winter. In the spring, prices may strengthen with the seasonal decline in red meat output (mainly pork).

Lambs. Large supplies of other red meats may limit the coming winter/spring advance to near last year's $4 rise despite expected smaller lamb supplies. In the first quarter, prices will probably average below the year-earlier levels but April-June quotations may be higher.

Hogs. Hog prices will probably rise from winter levels to a seasonal summer high, in contrast to the contraseasonal decline during the first half of '69. However, the increase this year will not be substantial and prices will stay well below those of January-June a year ago.

Food spending. It rose 8 percent in 1970 to an estimated $114 billion. This about paralleled the rise in disposable (after-taxes) personal incomes. So, food's share of total income was probably no more than the 16.7 percent of '69.

RIB PRICES, CHOICE
30-35 POUNDS, CHICAGO



Contents

Food prices overall climbed about 5.5 percent versus 5.2 percent in '69 . . . with grocery store prices up 5 percent and eating-out prices 7.5 percent higher.

Outlook? Prices this winter and spring may rise only a percent or so over late '70 levels.

EPA: New government agency. USDA's responsibilities for registrations of some 50,000 pesticide products and for monitoring pesticide residues have been transferred to a new Environmental Protection Agency (EPA), officially created on Dec. 2.

Foreign spotlight. Controls on production by the industrial nations are showing up in the *world wheat situation.*

The combined area seeded to wheat for 1970 harvest in Canada, Argentina, Australia, and the U.S. was one-third below the 1967 peak and by far the decade's lowest.

The downward "adjustments" in production by the big wheat exporting countries, along with stronger world demand for wheat, will lower stocks significantly next year.

Volume of shipments from the U.S., Canada, and Australia will probably increase in fiscal 1970/71, but exports from Argentina and France will be down. The USSR, with a record '70 grain harvest, has the capability to maintain or increase its net wheat exports.

No rain in Spain. A 7-month drought, with only 2½ inches of rain in the central plateau and southern provinces, may cut the '71 grain crop by nearly 15 percent from last year's reduced harvest. Shortage of forage and water has also led to heavy slaughter of livestock.

Another Russian record. The USSR cotton crop is even bigger than anticipated. At 6.8 million tons, unginned (10.7 million bales, ginned), it exceeds the previous record by about 14 percent.

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Numbers in parentheses at end of stories refer to sources listed at end of issue.

So you want to be a BIG farmer . . .

Though pure competition yet prevails in agriculture, big farmers have a decided price advantage when it comes to buying inputs and marketing their commodities.

Years ago when economics professors spoke of "pure competition" they frequently used the farming industry as a classic example.

U.S. agriculture 1971, however, is not as purely competitive as in the days before the large-scale farmer came on the scene.

By definition, pure competition reigns in a market when a large number of firms sell products the consumer considers to be pretty much equal.

Top grade cotton, for instance, is top grade no matter who grows it. And when the goods are virtually alike, one expects uniform selling prices to rule throughout the market.

The farming industry of the 1970's is still predominately made up of many small firms producing identical products. Uniform prices also prevail for the most part . . . with this important exception:

For some commodities, big producers can in fact get higher prices than the small guy. Too, they are often able to buy farm supplies at discount.

Savings on cost of inputs. On large wheat farms in Montana (3,000 acres and up), the discounts for purchasing machinery in volume may run 10 percent below the list price, according to an ERS study. For machinery parts, the discount is as much as 20 percent, for grease and oil 10 percent, for herbicides 20 percent, for lumber 10 percent on purchases of $1,500 or more, and a similar discount is available on farm supplies when monthly purchases are at least $500.

Higher selling price. A recent analysis of large-scale corn operations in the Corn Belt showed that a number of farmers producing over 300,000 bushels increased their effective selling price by 5 cents per bushel.

How? Among other things they used their own efficient corn drying-elevator facilities and they sold corn via direct delivery to riverside terminals.

Together with a $10-per-acre advantage for buying inputs in volume, the net income advantage on these corn farms added up to a sizable $15 per acre.

To spread overhead costs of machinery and equipment and to minimize investment risks during the critical periods of planting and harvesting, the big farms used several labor shifts.

Some of the farms had land parcels 15 miles or more apart. Thus it seems spatial fragmentation was not a prohibitive factor in getting high profits from corn.

Apart from these incentives, would it really pay a small farmer to become a large-scale producer?

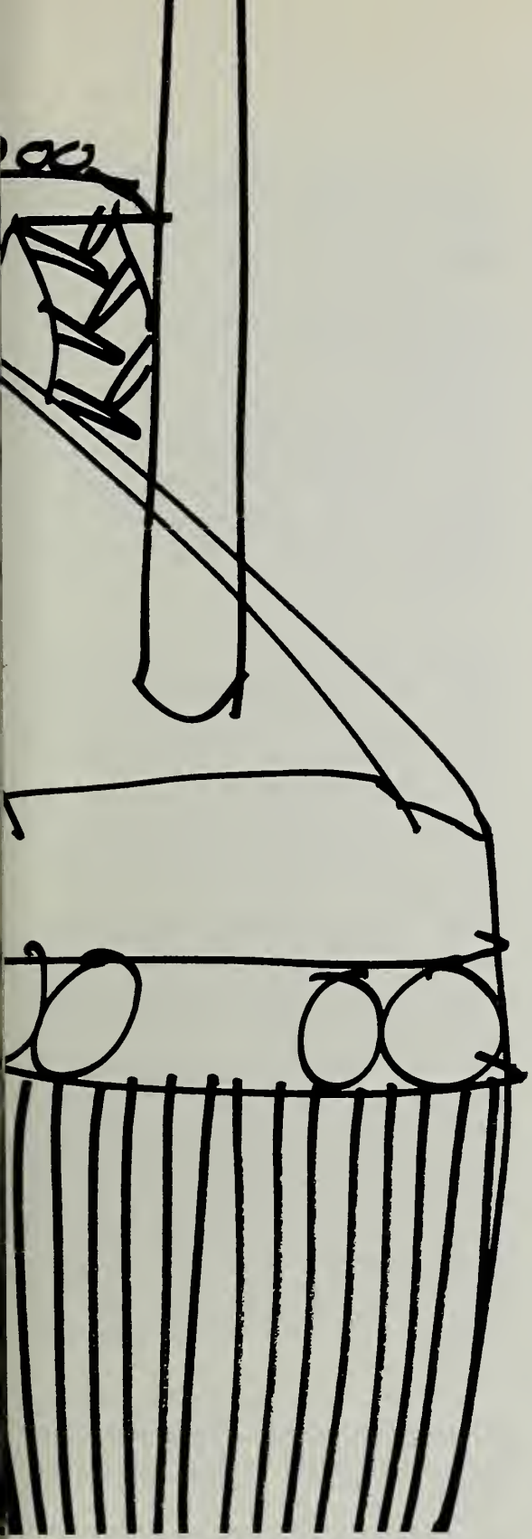
That depends to some extent on which commodities we're talking about. Some, apparently better than others, lend themselves to production on a large scale.

By the 1964 Census of Agriculture, more than half the 31,400 farms with product sales of over $100,000 raised cotton, poultry, and other meat items. And of the farms with sales of over $1 million, two-thirds were classed as vegetable, fruit, and meat producing farms.

One thing the $100,000-and-up class had in common was this: management was highly specialized.

Take large-scale cattle feeding. The percent of fed cattle marketed from feedlots with a capacity of 1,000 head or more increased from about 36 percent of total U.S. cattle marketings in 1962 to 47 percent by 1968.

Many new feedlots of today have a feeding capacity of 15,000 to 30,000 head. A number of these feedlot firms don't own all the cattle they feed; instead, they custom feed cattle in order to keep their lots operating at, or near, full capacity. This way they can capitalize on the economies of buying inputs (including feeder cattle) and selling fed cattle



in large volumes.

In general, it's rare a farmer can pay off his original investment within 4 years. Yet it was done by owners of some of the more successful feedlots prior to the recent months of less favorable profits.

A word of caution to anyone who thinks cattle feeding is a real bonanza. Look at what one ERS economist gives as some of the reasons for favorable profits in this business—

• The payoff for producing only "choice" grade beef rather than "standard."

• Ability to estimate future needs for cattle and for feeder cattle to keep the lot operating at near capacity.

• Facility to tap sources of capital not usually available to farmers.

• High degree of integration —between supplying cattle for the feeding operation itself, the slaughtering and packing operations, and retailing the product.

In short, big operators in the cattle business need an "A" to "Z" knowledge of marketing conditions, and how to use contracting, equity financing and other managerial devices to their advantage.

One man of course can't be an expert on all these things, so the larger scale cattle farms may have many managers. One may specialize in financing, another buys cattle, others handle feed production or purchasing, and manage feeding operations.

Winter tomato growing provides another example of a big business requiring a lot of savvy and capital if the operator expects to make money at it.

In the winter tomato areas of Florida, the majority of producers rent most of the land they farm. They might own a small portion, but this is considered a base operation. The balance is leased from large landholding corporations. The reasons are that producers need to be able to get in and out of tomato production very quickly as market conditions change and they need to free their own capital to service high operating costs.

Years ago these same men produced many kinds of vegetables. Today technology and management skills for tomatoes are so specific that they no longer apply to other crops.

And, if you can't manage labor, this is not a crop for you. About 40 percent of total costs of producing staked tomatoes is for labor.

Unless you have correctly assessed current market conditions —as well as determined where the tomatoes will be sold and at what price even before planting —you could end up bankrupt in no time at all. During the 1967/68 season, it cost about $1,500 per acre to grow winter tomatoes. And that didn't include costs of harvesting.

All considered, only the farmer himself can decide whether it's to his advantage to become "real big" in the business.

Firstoff, it is unlikely the capital he needs can be acquired through individual savings. Today's agriculture, in its most highly organized form, is a process of integration . . . production on a custom basis . . . rental of production resources . . . use of outside capital equity.

Even when a farm firm can satisfy the capital requirements, success depends crucially on being able to evaluate the returns from each input into the business.

Some financial returns originate as interest from the *investment* itself.

Other returns comes from *ownership*—whether in the form of rent, capital gains or through direct production operations of the owner.

A third category is *entrepreneurship*. After deducting returns from investment and ownership and the operating expenses, what's left is the return for acquiring the use of resources and services and committing them to farming.

ERS economists recommend that farmers in general carefully

weigh these three components when measuring financial returns. This pertains particularly to those thinking to expand.

A farmer should know how much of his profits are coming from resource ownership, how much from the input of his skills, and the portion derived from interest on investment.

To illustrate, some cattle ranches may have derived their highest financial returns from the *ownership* function. The owners have invested in sizable land holdings on a low equity basis, and they let others provide the capital for cattle, equipment, and operating expenses.

By traditional accounting procedures, it might seem as though these ranches are not doing very well. Their returns, when viewed as operating profits, have in fact been relatively low in recent years. Yet, total returns have been greater than indicated by the operating returns.

This is because land values have been rising sharply. The biggest return to the operation has been in the form of capital gains from land ownership. *(1)*

In 1929 the census people classed a farm as being large if it grossed $30,000 or more annually. That year we had only 7,875 such units. They produced just 5 percent of the total value of U.S. farm commodities.

The definition of "large" has since changed. So has the share of the value contributed by big farmers.

By 1964, our 31,401 "large" farms reported sales of over $100,000 a piece. They accounted for *25 percent* of the national gross.

And by 1969 (year of the latest Census of Agriculture)? The answer will have to wait till next October, when the last of the county reports will be in.

Based solely on the 1959-64 growth of large-scale farms—10 percent annually—in 1969 they would have numbered around 45,000. *(2)*

High Water Bills Could Dampen Gains for Texas Plains Farmers

Irrigation development during the late 1940's and early 1950's prompted Texas High Plains farmers to switch from the production of dryland winter wheat to cotton and grain sorghum for bigger profits.

Intensive irrigation use of underground water supplies, however, caused water levels to drop drastically. And by the early 1960's it was apparent that the seemingly abundant water reservoirs were indeed exhaustible (see Farm Index, April 1970).

If cotton and grain sorghum are to continue as the major crops of the Lower Texas Panhandle area, water will have to be imported. But the quantity involved and the distance over which it must be moved raise the specter of prohibitive costs. High water bills can take a Texas-size chunk from a farmer's profit, if not eliminate it altogether.

A farm operator's ability to pay for the imported water is based on the amount of cropland, current input and commodity prices, land charge, and the cost per acre foot of water.

A recent study sought to determine the cost per acre foot beyond which it would be profitable to return to dryland farming. Water charges that rose from zero to $70 per acre foot at $5 intervals were assessed on cropland which increased at 160-acre intervals from 160 to 2,400 acres.

Being able to meet water expenses was highly contingent on the price of cotton. With cotton priced at 28 cents per pound of lint, a water cost of $25 per acre foot could be borne in an area where cotton is the major crop, provided cropland exceeds 480 acres.

At 20 cents per pound of lint, a farmer could pay no more than $15 per acre foot, even if his cropland exceeds 960 acres.

Considering alternative cropping programs, it generally appears that a farmer could endure a charge exceeding $15 per acre foot only at the expense of family living standards or current land values.

With a technological improvement, a commodity price increase, or a production cost decrease, a farmer could probably afford a higher water bill and not require as much land. *(3)*

Most Widely Grown Crop in U.S. Has Varying Labor Requirements

The U.S. crop that uses more farm acreage than any other is neither wheat, corn, nor soybeans. It's hay.

In terms of farm value, hay also ranks high on the list—about $3 billion worth in 1969 and second only to corn.

Harvested area in 1969 came to about 62 million acres. Corn, with next largest area, had 55 million acres. Total hay production, 127 million tons, was mainly dried alfalfa, clover, timothy, or mixtures of same. This also included 8 million tons of wild hay, including prairie, marsh, and salt grasses.

Around a fifth of the annual hay crop is sold. The balance is fed to livestock on the producing farm.

Nearly all the hay is dried and baled in the field—over 90 percent, according to a recent study on hay harvesting practices. Thirty years ago, only 15 percent of the crop was baled in the field where grown.

The greater multi-purpose haying equipment has resulted in substantial labor savings to hay producers in all parts of the country. Still, there are wide variations between States in man-hours spent in harvesting the yearly hay crop.

The nationwide average in 1967 was 2.9 hours of labor per

acre. But the average for North Dakota, lowest in the Nation, came to only 1.5 hours. Arizona had the highest average—4.6 hours.

The amount of labor used depends not only on the method of harvesting but also on kind of hay, number of cuttings, weight of bales, size and location of hay operations, and yields per acre.

In North Dakota, for example, much of the hay is of wild varieties—usually cut only once a year. In addition, little labor is needed because much of the hay is stacked mechanically or otherwise bulk handled.

In Arizona, the 1967 labor figure was high because most of the acreage was in alfalfa—cut several times during the year.

Yet other States, such as California, had relatively low labor inputs even though they also specialized in alfalfa. California's labor input of 2.8 man-hours per acre was due in part to making fewer but heavier bales.

Mechanical handling also contributed to labor savings in California, as did the practice of delivering the marketed hay direct to roadside pickup points rather than putting it into temporary storage. *(4)*

Top Lenders Report Slackening Of New Farm Mortgage Loans

New farm mortgage loans during the first half of 1970 were at the lowest level since 1962. The $605 million loaned by the three major lender groups was 50 percent below the peak volume of $1,240 million in the first half of 1966.

Largest decline in loans was recorded by life insurance companies, down 56 percent from a year earlier. Federal land banks registered a 25-percent drop.

Insured loans approved by the Farmers Home Administration (FHA) declined 12 percent. *(5)*

Dakota Study Detects Traits Of Borrowers Who Fail To Repay

The flashing amber light on a plane's instrument panel often alerts the pilot to trouble. He may be able to remedy it and thus avert a major mishap.

In the same way, there are some indicators that may alert a lender to the likelihood that a farm loan will not be repaid on time or at all.

Although most farmers use their credit and repay loans satisfactorily, a small percentage do not. A study was recently made of 200 farm loans in South Dakota to determine the reasons why some aren't fully repaid. Statistics for the study were obtained from the Farmers Home Administration (FHA) and the production credit association (PCA). All the sample cases in the study were family farms.

Analysis of data available to lenders at the time of a farmer's first loan showed no significant differences between characteristics of borrowers who were successful in repaying and those who weren't. But the fact that some of the borrowers were unsuccessful in handling their loans indicated that basic differences did exist. However, these were not detected by the lender at the time of the loan.

The unsuccessful borrowers were those who, at the time of the study, were in serious financial difficulty, and had gotten into further difficulty while borrowing from the present lender.

A low production record—per acre or per unit of livestock—over the life of the loan was the most important factor separating this group from the successful borrowers.

Borrowers who had a history of high operating costs relative to the level of production were also most likely to be unsuccessful in repaying, though there were exceptions.

Too, a high ratio of non-real estate debt to non-real estate assets, and a high ratio of non-real estate debt to total debt, were associated with loan failures.

As opposed to the prompt repayers, those who ran into trouble also tended to have less formal education, larger households, and more had off-farm income. But they also had more years of farming experience before their first loan and had farmed longer in one area than the successful borrowers. *(6)*

Arizona Ranchers Question Basis For Steer-Heifer Price Spread

Most ranchers in Arizona would agree they can't expect to get the same price for steers and heifers. They know that steers perform better than heifers in the feedlot, and therefore the steer commands a higher price.

But what is a "reasonable" price spread in view of the fact that both steers and heifers receive almost identical care?

Some ranchers believe the price differential in recent years has been unduly large. When selling at auction, ranchers have received 4 to 6 cents more per pound for steers than for heifers. Sold direct to country buyers, the difference has been 2 to 3 cents.

Why buyers pay what they do is explained in a recent study by the University of Arizona.

The economists conclude that by and large the price differences are justified, after taking these factors into account: slaughter prices of steers vs. heifers; total and daily rate of gain for the two types; the weight differential when they leave the ranch for the feedlot; and general price levels of cattle.

This recent study also advises ranchers on how to decide whether they are better off selling through auctions or selling direct to country buyers. *(7)*

RURAL HOUSING FIX

Poor housing is less of a blemish on the rural landscape than 10 years ago, but the countryside still has two-thirds of the worst housing to be found in the Nation.

A Latin agronomist tells the story of when, many years ago, he was working in the arid Chaco region and asked a farmer for a glass of water. The generous farmer responded by bringing out a whole jug full.

Taking note of the tiny creatures that darted about in the vessel, the agronomist politely informed the farmer that this water was brimful with mosquito larvae.

"Impossible!" snapped the farmer. But after thinking a moment, he relented. "Ah, yes. That could be . . . We are rebuilding the well this week. And wishing to preserve them for future use, we removed the frogs for the time being."

Frogs and mosquitoes are not peculiar to Latin countries. Neither is unsafe water supply.

In the United States, to illustrate, one in six rural homes does not have complete plumbing—hot and cold running water, a flush toilet, and a bathtub or shower.

When an outdoor privy is within easy distance of a shallow well, there's an even chance the water for drinking is being contaminated.

This only hints at the extent of our Nation's rural housing problem.

In addition to 2 million rural homes that lack plumbing, another 1 million—today as 10 years ago—are classed as "dilapidated." They are literally falling down, posing danger to life and limb of the occupants.

Together, these 3 million houses constitute 60 percent of all the substandard units in the Nation. But only 29 percent of the total housing is rural.

Improvement in substandard housing in rural areas has come faster than within the Standard Metropolitan Statistical Areas (the SMSA's).

By the 1960 Census, rural areas (communities with fewer than 5,500 persons) had 5.4 million substandard units. Today the estimated figure is 3 million.

In the urban areas, the decline was much less—from 3.1 million units in 1960 to 2 million in 1970.

But as one metropolitan newspaper points out: ". . . the prospect for decent shelter for the rural poor is still a far-away dream . . . Often with little or no heat, electricity, plumbing, windows, roof, cellar, the houses of the rural poor are at best, shadowy shacks where the heat piles up in the summer, cold in the winter, and troubles, all the time."

For the most part, the improvement in housing since 1960 has been in units that formerly lacked adequate plumbing. A majority of these were owned rather than rented.

But the most important factor influencing the quality of rural housing was family income.

In 1970 as in 1960, about two-thirds of the substandard rural housing was occupied by families earning $3,000 or less—the so-called "poverty line."

Nearly all the improved units since 1960 were inhabited by families with incomes of at least $3,000. As rural incomes rose to $3,000, the incidence of bad housing went down.

More specifically, by 1970 the number of rural families with incomes of less than $3,000 had declined to about 3.4 million—half the 1960 number. The number of substandard homes they occupied also decreased by one half to 2.2 million. Most of the other substandard housing was occupied by families earning $3,000-$6,000.

Not only can't the impoverished afford to fix up a ramshackle house, but they also can't get the financing to buy a better home.

Most loan companies require the applicant of a home loan to show an income equal to about half the dwelling's purchase price. The median price of conventionally built new homes is $27,000. A family with yearly earnings of $3,000 would have to search far and wide for a financial backer. About the only kind of home this family could buy is a mobile unit.

Levels of income aside, rural residents frequently have a hard time getting *adequate* credit to build or buy a home. The local bank, often the only financial institution in rural communities, has too many demands for its limited resources to permit any large volume of long-term housing loans.

Housing loans generally average less than 10 years, contrasted with 20 to 30 years in most urban

areas. Also, lending risks are greater on rural houses . . . for reasons of remote location, lower building standards, inadequate public facilities, difficulty in establishing market values.

And contrary to popular notion, construction costs aren't much lower in the countryside than in the metropolitan centers. A recent study in Ohio found the costs to be practically the same in the agricultural area in the southeastern part of the State as in Dayton and Columbus.

Because of the high costs of houses nowadays and problems of financing, many rural families are forced to live in rented units.

The quality of rented housing has been slow to improve. Between 1960 and 1970, the number of owned substandard units fell from about 2.8 million to 1.2 million, whereas rented substandard units barely declined—from 2 million to 1.8 million.

This snail-like progress on the rental side is caused by the prevalence of "free renters" in rural areas, who—by one estimate—number around 600,000 households.

These people either pay "rent-in-kind" or no rent whatsoever. In any event, they are not about to sink money into property they don't hold title to. (For various reasons, neither will those who *do* own the property.)

Most in this group are living rent free in houses leftover from the days of plantations and sharecropping. The proprietors of the dwellings no longer need the workers, but the workers haven't left the dwellings. They remain there, eking out an existence through whatever part-time employment they can find.

Others in the rent free category get their residence as part of the pay package for farm work. Still other free renters are living in homes pending settlement of an estate. The legal proceedings in some cases drag on for several years.

Among the most serious rural problems is the persistently bad condition of homes occupied by our black population. About 75 percent of their housing is substandard, compared with 85 percent in 1960. Black families also occupy almost a third of all substandard units.

Indications are that the housing gap between whites and blacks has actually widened during the decade of the 1960's.

The aged make up another category of underprivileged rural residents. The elderly had 25 percent of our rural substandard housing in 1960.

The Federal and local governments have endeavored to whip the national housing problem through billion-dollar programs providing subsidies for construction and other forms of assistance.

Nevertheless, subsidized housing construction during the past 2 years fell 200,000 units short of the initial annual targets set under provisions of the Housing and Urban Development Act of 1968.

Housing starts throughout the Nation declined 18 percent in January-June 1970 from the first 6 months of 1969. High interest rates, restrictions on money supply, and inflation are in large part to blame.

More recently, however, home construction is showing signs of recovery in response to some loosening in the credit market. By some estimates, housing starts in 1971 might exceed 1.6 million units—the largest volume since the 1950's. *(8)*

OVER HALF THE INCOMES OF THE POOREST RURAL FAMILIES GOES FOR HOUSING [1]

Income category	Income after taxes	Expenditures: Total housing	Shelter	Fuel and utilities	Operations	Furnishing	Other [2]
	Dollars, and percentage [3] of income in parentheses						
Average	4,775	1,195 (25)	452 (10)	275 (6)	222 (5)	240 (5)	6
Under $1,000	631	347 (55)	125 (20)	124 (20)	56 (9)	40 (6)	2
$ 1,000- 1,999	1,590	521 (33)	178 (11)	173 (11)	91 (6)	77 (5)	2
$ 2,000- 2,999	2,641	755 (29)	260 (10)	220 (8)	131 (5)	140 (5)	4
$ 3,000- 3,999	3,581	947 (26)	336 (9)	259 (7)	169 (5)	177 (5)	6
$ 4,000- 4,999	4,602	1,150 (25)	416 (9)	278 (6)	207 (5)	240 (5)	9
$ 5,000- 5,999	5,551	1,424 (26)	559 (10)	303 (6)	250 (5)	309 (5)	3
$ 6,000- 7,499	6,773	1,609 (24)	623 (9)	344 (5)	309 (5)	328 (5)	5
$ 7,500- 9,999	8,484	1,995 (24)	794 (9)	369 (4)	389 (5)	438 (5)	5
$10,000-14,999	11,380	2,598 (22)	1,046 (9)	467 (4)	511 (4)	545 (5)	29
$15,000 & over	22,451	4,062 (18)	1,730 (8)	543 (2)	906 (4)	773 (3)	110

[1] Latest published data (1961), U.S. Dept. of Labor. [2] Less than 1 percent of total family income. [3] Rounded to nearest whole number.

The Pros and Cons of Date-breaking

The food industry debates whether "decoded" dates on food products would benefit customers

Unless a shopper has the talents of Sherlock Holmes, he isn't likely to understand the assortment of numbers and letters he finds on virtually every food product at the grocery store.

Dates frequently form an integral part of these codes, which are determined solely by the food processor. The codes, claim the processor, are used primarily for inventory control. From them he can trace product movement, or readily locate a product lot if recall becomes necessary.

The coded dates tell a producer, among other things, when overage products should be removed from retail shelves, and allow him to rotate his stock on a first-in, first-out basis.

Currently, there are few legal requirements for open dates (uncoded so the customer can understand). For example, requirements for open dating of fresh milk exist only in six locations—New York City, Baltimore, St. Louis, Birmingham, suburban Philadelphia, and New Jersey

On their own, food processors open date most refrigerated dough products where yeast is an important quality factor. The labels read "Perishable—Keep Under Refrigeration. Do Not Freeze. For Best Results, Use Before Date on End of Can." This is about the only widely distributed product where an open date is used and explained by the producer as a quality indicator.

The food industry, however, is showing increasing interest in open dating policies. A chain store in Chicago promotes "freshness codes" as a service to its shoppers. Placards that explain how to interpret codes on its products are displayed in the meat, dairy, delicatessen, and snack departments of each store. And a book that cracks the codes on many items is available at the stores' service desks.

Another chain in the Northeast distributes small pamphlets that explain the codes on some of its own products. Although the number of decoded items is not extensive, the products are those important in family food buying.

Many others in the food industry are weighing the possibilities of open dating and whether it will provide consumers with genuinely useful information. A few processors have publicly announced that they will institute an open date policy in the near future.

But many are still uncommitted, and the battle rages between friends and foes of a dating system that shoppers can understand.

Open dating advocates feel customers have a right to know a product's freshness—that such information would aid purchase decisions and subsequent use in the home. They think a shopper feels he is being deceived when he knows a label may carry a coded date that he can't decipher.

Backers of the coded date say that open dating won't substantially aid the food buyer. They

point out that temperature and handling are far more important to a product's quality than the passing of time.

Opponents also feel that open dating would be wasteful, as shoppers would search for the latest date, bypassing other perfectly good products. Retailers would counter by displaying only items bearing the same date. And they wouldn't restock until all are either sold or reach their "pull" date. This would cause numerous out-of-stock situations.

If everyone involved in the coding issue agreed that open dating would be beneficial, there might be an even bigger hassle over what type of date to use.

There are many possibilities, some of which are already employed in coded form.

Some think the date of manufacture or final packaging would be best, as manufacturers wouldn't have to state how long their products should sit on the retail shelves.

Opponents to this plan foresee problems created by items that are seasonally packed or stored for long periods before reaching the retailer. They also argue that the average shopper lacks the expertise to determine what a reasonable shelf life is.

Finally, the plan's adversaries claim that any date in the past carries a psychological disadvantage, and customers will seek out only the very latest date.

The use of an expiration date —the last day a product should be eaten—has its drawbacks too, as it is technically unfeasible to predict the exact day when significant quality changes will start occurring.

A retail "pull" date—when a product should be taken from the grocer's shelves, while still allowing time for home storage—is a frequent suggestion. The hitch is that shoppers might interpret "pull" dates as expiration dates.

A more acceptable plan is durability dating, as used for refrigerated dough products. Unlike an expiration date, chances are that the product will be acceptable after the date on its package. But, as the label advises, the *optimum* time for use is before that date.

The main opposition to this open date plan (and to all others) is that it might give the shopper a false assurance of quality. Improper temperatures and handling can make a product unfit for use months before any kind of date indicated on its package.

But open dating advocates retort that the date is not intended to guarantee quality, but that it *will* serve as a useful guideline for the shopper. *(9)*

G. I. Fiber

There's been a fabric cutback across the entire military spectrum during the past 3 years.

The cotton industry feels it the most because it usually supplies at least 75 percent of our Armed Forces' demand for textiles.

Deliveries of cotton to the military in 1969/70 ran only a little over 86,000 bales. This was about half the year-earlier total and less than 25 percent of peak demand of over 369,000 bales in 1966/67 (raw equivalent basis).

Poplin, duck, and sateen continue to be in demand for use in military attire. Cheesecloth and bedsheeting also figure prominently in military supply catalogs.

With continuing inroads of manmade fibers—and a rise in defense demand for wool during recent months—cotton's share of the military market has also been sheared.

Cotton's share dropped to a little over 60 percent in the first three-quarters of 1970, compared with about 80 percent a year earlier. Wool and manmades have each claimed about 20 percent.

The outlook?

An expected cut of about 15 percent in the Armed Forces for the year ending June 30, 1971 . . . perhaps fewer sheets for generals . . . fewer fatigues for privates. It all implies a further drop in overall military demand for cotton fabrics. *(10)*

Fresh Vegetable Prices Move In Orderly Fashion—Even in Winter

Getting fresh vegetables from farm to consumer provides a gross income of around $3 billion yearly to marketing firms.

Over time, the system of marketing these vegetables has undergone some major changes. Notably, large retail organizations have turned more and more to buying direct from the point of production, and the number of "middlemen" between shipping points and retail outlets has diminished.

As a result, questions have risen about the performance and pricing efficiency of today's fresh vegetable marketing system.

Lettuce, tomatoes, and carrots account for roughly 50 percent of U.S. production, acreage, and value of winter vegetables.

This trio of fresh vegetables therefore provided the focus for an ERS marketing study covering the winters of 1966 through 1968.

Findings indicated that the marketing system performed with a high degree of pricing efficiency. Exceptions were few.

Weekly prices at various f.o.b. shipping points and 12 selected consuming center markets generally moved together for a given commodity throughout the winter seasons.

Lettuce, for example, sold at an average weekly price of $2.31 per carton of 24 heads at the California-Arizona shipping point. The price from there increased with distance and time to $3.19 in San Francisco and $3.95 in New York.

Prices of Texas carrots rose from a weekly average of $3.72 in the Lower Rio Grande Valley production area to $4.78 in New York.

California carrots, bought for $3.90 in the Imperial Valley, brought $5.72 in San Francisco, and $5.34 in New York.

For Florida vine-ripe tomatoes,

large and extra large size, the average price per 20-pound carton increased from $3.99 at southern Florida shipping points to $4.51 in Pittsburgh, $4.77 in Detroit, and $4.80 in New York. Prices for Mexican vine-ripes marketed on the West Coast moved similarly.

Transportation costs varied widely. The minimum in the survey was 25 cents for trucking a 2-layer flat of tomatoes from Nogales, Arizona, to Los Angeles. Maximum was $1.25 to ship a wirebound crate of carrots from California to New York by rail.

Residual margins were generally less than transportation costs. These margins are figured by deducting shipping-point prices and transport costs from the consuming-center price. For lettuce, precooling costs are also subtracted.

The residual margins averaged 26 cents for a mesh master container of Texas carrots, an estimated 32 cents for California carrots, 37 cents per carton of California-Arizona lettuce, and 51 cents per carton of southern Florida tomatoes. (The margin on lugs and flats of Mexican tomatoes was 24 cents.)

There was little evidence that residual margins increased with the transport time. Results were mixed for tomatoes. But the margins for lettuce and carrots at cities close to shipping point tended to be as high or higher than for cities more distant. *(11)*

Long Trip May Tax the Driver But Costs the Milk Hauler Less

In the long run, the further a bulk load of milk is trucked to market the less the trip costs on a per mile basis.

This is the conclusion drawn from a recent ERS analysis of bulk milk hauling costs, per hundredweight mile. The analysis was based on a synthesized cost study for a 5,500 gallon (47,300 pound) payload. Results indicate costs generally were much greater for short hauls—under 100 miles—than for longer trips.

Beyond the 100-mile point, average total costs tend to be relatively constant on a per trip mile basis.

Ownership—or fixed costs—used in the study consist of transport, building and tools, depreciation, insurance, interest, Federal highway-use tax, State license, and miscellaneous taxes and administrative costs.

Labor costs consist of the driver's basic wage plus fringe benefit payments. These include pension, health and welfare, vacation, paid holidays, social security, unemployment compensation insurance, and workmen's compensation insurance.

Operational or variable costs include fuel; tires; maintenance, oil, grease, parts and labor for repairs; and costs such as road tolls, weighing fees, and other transportation expenses directly related to over-the-road operations.

Where applicable, a subsistence cost of $9.00 a night is used in the study to compensate the transport driver for overnight lodging and eating expenses.

The sharpest decrease in ownership (fixed) and labor costs occurs for hauls ranging between 25 and 100 miles.

These drops reflect fairly rapidly declining fixed and labor costs as hauling distances exceed the 25-mile figure. At the same time, operational costs remain relatively constant.

For hauls over 100 miles, both fixed and labor costs decline at a much smaller rate than for trips between 25 and 100 miles.

Both fixed and labor costs decline slowly between 100 and 400 miles. Again, operational costs remain relatively constant up to 225 miles. At this point, operational costs go up as subsistence costs are added.

For distances between 400 and 750 miles, fixed and labor costs continue to average lower for each additional hauling mile. On the other hand, additional subsistence costs raise total variable and subsistence costs.

In attempts to cut transport costs for long trips, haulers have in recent years tended to eliminate two-driver operations; use larger capacity semitrailer tank units; reduce depreciation time periods; and, in some cases, pay long-haul drivers on a per trip basis. *(12)*

Meats and Ladies' Hosiery Snag Sizable Gains in "Grocery" Sales

Checkout registers in grocery stores clicked off $73.2 billion in sales for 1969, according to private industry statistics.

Food sales, at $53.4 billion, showed about the same 5-percent gain they made the year before.

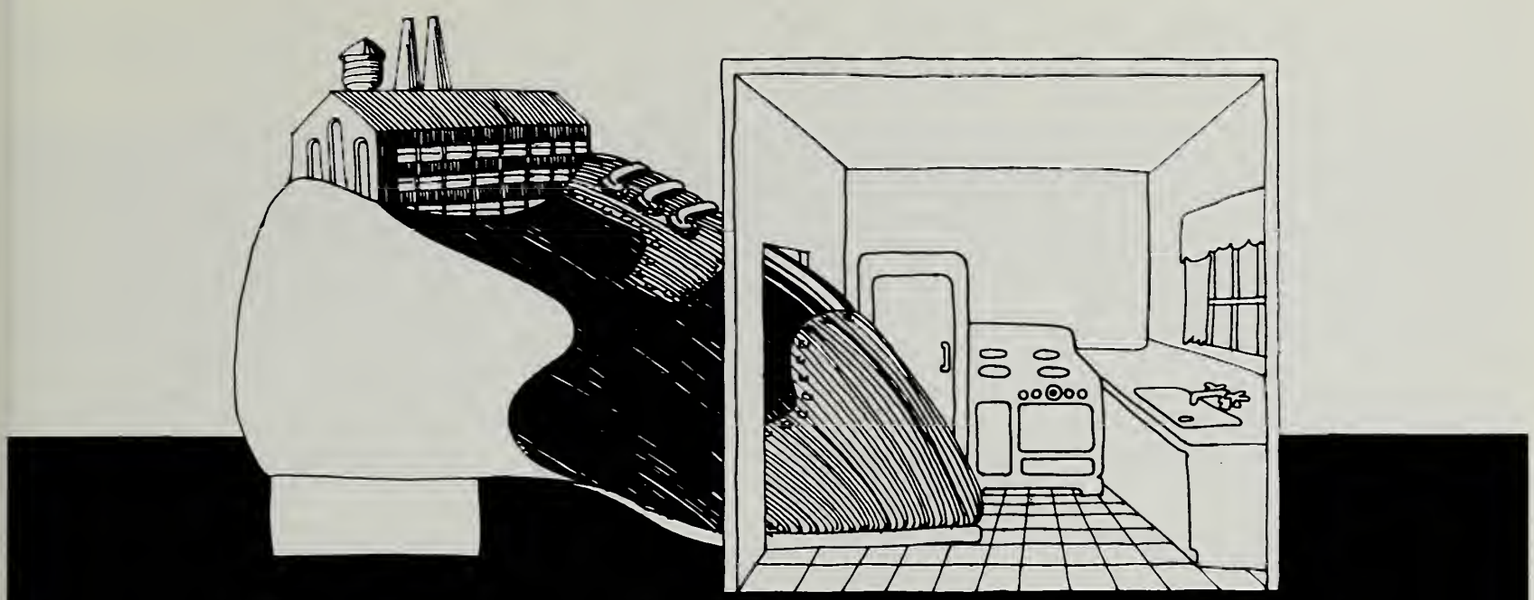
Nonfoods and alcoholic beverages, at $19.8 billion, slowed their advance for the first time in several years. Sales gained only 3 percent versus 10 percent in 1968.

Across-the-board, nearly all the sales increases in '69 came from price rises.

Gains in food sales ranged from about 3 to 7 percent—with meat, poultry, fish, and beverages the leaders. Higher prices were responsible for larger sales of meat and eggs. They also represented most of the increase in sales of poultry, fish, cereal and bakery items, and dairy products.

Among nonfoods, women's hosiery sales rose 17 percent, and toys 4 percent. Phonograph records, pet foods, and tobacco products gained slightly.

Soap, paper items, and housewares held onto their traditional shares. But sales of a big, nonitemized category of mixed merchandise—some relatively new among grocery store offerings—fell 4½ percent after sharp gains in preceding years. *(13)*



European Food Industry: Awakening Giant

It took awhile for European food processors to get a foot in the kitchen door, but now they find a flood of demand for their big output of items à l'américaine.

The European woman who enjoys long hours in her kitchen—blithely dicing and slicing, blanching and braising—is fast becoming a myth.

It all started in the mid-1950's when Europe's food manufacturers got a foot in the door of her kitchen. They showed her their wares. She bought, timidly.

But today she's not at all reticent about leaving her kitchen to seek out the newest in "convenience" foods. More often than not, the product is made in Europe by a food industry that has grown phenomenally in recent years.

European food processors are now offering supermarket buyers anywhere from 1,000 to 6,000 new items each year. (Many are duplicates or facsimiles of products first introduced abroad by U.S. food firms.)

True, only a fraction of newly developed products reach the retail shelves. And the number that consumers are still buying 1 year later is still smaller.

Yet sales of processed foods in Europe are rising 4 to 5 percent a year—about twice the yearly increase in total spending for food. Sales of some products—snack foods, pet and baby foods, frozen items, and fully prepared meals or main dishes—are gaining as fast as 10 to 20 percent.

The four Scandinavian countries are a good example. Between 1959 and 1967, use of frozen vegetables jumped from only about 3,000 tons to well over 9,000; canned vegetables, from about 15,000 tons to over 25,000.

Even more significant is the boom in per capita purchases of convenience foods in Europe.

Take processed tomatoes. In 1955, consumption in Scandinavia ranged from only 18 percent of total tomato use in Denmark to 36 percent in Norway. By 1966, the canned shares had risen to 24 percent and 48 percent, respectively.

Gains elsewhere in Scandinavia, and Canadian-U.S. comparisons, are shown below.

Swedes lead the users of frozen foods. Their consumption rate was already at about 27 pounds per person in 1968 (U.S. was close to 67 pounds).

The relatively sudden accept-

Country	Total use of tomatoes		Use of processed tomatoes		Percentage processed	
	1955	1966	1955	1966	1955	1966
	Pounds per person				Percent	
Denmark	11.2	15.6	2.0	4.6	17.6	29.6
Finland	3.3	7.9	0.7	2.6	20.0	33.3
Norway	9.9	13.2	3.5	6.4	35.6	48.3
Sweden	6.8	14.5	1.3	3.5	19.4	24.2
Canada	61.6	60.1	44.0	45.1	71.4	75.1
United States	52.4	60.9	39.6	49.1	75.6	80.5

ance of processed food is a clear indication that the game of marketing in Europe has changed, and the characteristics of the players have changed with it.

On one side is a new breed of consumers—with more money, more education, and more "worldliness" than their predecessors.

Another major "generation" difference is less time to do ordinary household chores. (About 49 percent of Swedish married women have jobs outside their homes, compared with 36 percent in the United States.)

On the other side are the food manufacturers, who began to make changes after World War II. They adopted new technology, automated operations, stepped up labor productivity to offset rising wages, and expanded their factories. Now the pressure is on them to spend increasingly more on market and product research and related programs to push their products ahead of competitors.

In between are thousands of little food "factories" whose *modus operandi* is almost artisanal. They have little chance to stay in the game and are dropping out fast.

In Sweden, the number of food factories fell from 2,085 in 1956 to 1,608 in 1965—a loss of two plants every 17 days for 11 years. Belgian and Dutch dropouts have been even more rapid, all of them concentrated in very small plants.

As in the United States, the odds are best for plants with at least 100 workers. The U.S. food factory now averages about 51 workers, compared with 15 or 20 per European firm.

It takes money, too, to play the game. Major European food manufacturers say they need sales of $30 million to $50 million a year to finance even a modest research and development effort. And the manufacturer who aspires to being European—rather than national—needs sales of at least $100 million annually.

How many food companies of this magnitude does Europe have?

No firm figures are available. However, a private survey of the 200 largest industrial companies outside the United States lists 14 European food manufacturers (12 in the U.K., and one each in Switzerland and the Netherlands). Their 1969 sales ranged from $360 million to $6,030 million.

There is still an ocean of disparity between U.S. and European usage of convenient foods and the magnitude of the industries that process them.

But the gap is narrowing rapidly. Some call this phenomenon the Americanization of Europe, implying that European consumers and businessmen are imitating the United States.

In reality, imitation is little involved. It is not a basic cause of the spurt in activity of Europe's food manufacturers and acceptance of their products by consumers.

Worldwide economic and social forces—and the fact that technology has become international—are the real causes. These factors are operating in basically the same ways in all industrial nations.

The only differences are in the rates and timing of change in the several countries. And these, in turn, are related to income levels and rates of economic growth. *(14)*

Article Sources

State publications indicated by (*) may be obtained only from the experiment station or university cited. Manuscripts and special material are usually available only on request to authors.

1. and 2. W. B. Sundquist, FPED, Scale Economies and Management Requirements (manuscript); Walter G. Heid, Jr., FPED, "Pecuniary Economies and Internal Diseconomies of Large Size Dryland Wheat Farms" (speech); Don Bostwick, FPED, *Partioning Financial Returns: An Application to the Growth of Farm Firms*, ERS-390; Kenneth R. Krause and Leonard Kyle, FPED, "Economic Factors Underlying the Incidence of Large Farming Units: Current Situation and Probable Trends" (speech).
3. Wyatte L. Harman, William F. Hughes, and J. Rod Martin, FPED. *An Economic Analysis of Permissible Irrigation Water Costs in the Texas High Plains*, Texas A&M University, Texas Agr. Expt. Sta. Tech. Rpt. No. 70-3.*
4. Walter Ferguson, Paul E. Strickler, and Richard C. Max, FPED. Hay Harvesting Practices and Labor Used, 18 States, 1967 (manuscript).
5. Forest G. Warren and Nan P. Mitchem, FPED. *Farm Mortgage Lending: January-June 1970*, FML-25.
6. Carson D. Evans, FPED. An Analysis of Successful and Unsuccessful Farm Loans in South Dakota (manuscript).
7. C. Curtis Cable, Jr., and Elmer L. Menzie, Univ. of Ariz., and Russell Gum, FPED. Price Differences Ranchers Receive for Steers and Heifers (manuscript).
8. Ronald Bird, EDD, and Nolan Kegley, Farmers Home Administration. (Special material.) Also, Robert E. Freeman, EDD, *Rural Housing: Trends and Prospects*, AER 193.
9. Eileen F. Taylor, MED. Food Product Dating (manuscript).
10. *Cotton Situation*, CS-248.
11. Robert W. Bohall, MED. Pricing Performance—The Marketing System for Fresh Winter Vegetables (speech presented to American Society for Horticultural Sciences, Miami Beach, Florida, Nov. 4, 1970).
12. Herbert H. Moede, MED. Over-The-Road Bulk Milk Hauling Costs (manuscript).
13. *National Food Situation*, NFS-134.
14. Norris T. Pritchard, FDTD. "Development Potentials in European Food Marketing" (speech at Food Science and Technology Seminar, Helsinki, Finland, Dec. 1, 1970).

NOTE: Unless otherwise indicated, authors are on the staff of the Economic Research Service (ERS) with their divisions designated as follows: Economic and Statistical Analysis Division (ESAD); Economic Development Division (EDD); Farm Production Economics Division (FPED); Foreign Development and Trade Division (FDTD); Foreign Regional Analysis Division (FRAD); Marketing Economic Division (MED); and Natural Resource Economics Division (NRED).

Economic Trends

Item	Unit or Base Period	'57-'59 Average	1969 Year	1969 October	1970 August	1970 September	1970 October
Prices:							
Prices received by farmers	1910-14=100	242	275	277	276	281	274
Crops	1910-14=100	223	220	215	226	235	229
Livestock and products	1910-14=100	258	323	329	319	320	313
Prices paid, interest, taxes and wage rates	1910-14=100	293	373	377	389	392	394
Family living items	1910-14=100	286	351	355	367	369	369
Production items	1910-14=100	262	304	305	312	317	319
Parity ratio		83	74	73	71	72	70
Wholesale prices, all commodities	1957-59=100	—	113.0	114.0	117.2	117.8	117.8
Industrial commodities	1957-59=100	—	112.7	113.8	117.1	117.4	118.3
Farm products	1957-59=100	—	108.5	107.9	108.2	111.8	107.5
Processed foods and feeds	1957-59=100	—	119.8	121.6	126.1	126.2	124.9
Consumer price index, all items	1957-59=100	—	127.7	129.8	136.0	136.6	137.4
Food	1957-59=100	—	125.5	127.2	133.5	133.3	133.0
Farm Food Market Basket: [1]							
Retail cost	Dollars	983	1,176	1,187	1,236	1,231	1,221
Farm value	Dollars	388	477	478	476	472	456
Farm-retail spread	Dollars	595	696	709	760	759	765
Farmers' share of retail cost	Percent	39	41	40	38	38	37
Farm Income: [2]							
Volume of farm marketings	1957-59=100	—	126	179	120	142	180
Cash receipts from farm marketings	Million Dollars	32,247	47,229	5,479	3,775	4,562	5,600
Crops	Million Dollars	13,766	18,790	2,614	1,486	2,052	2,900
Livestock and products	Million Dollars	18,481	28,439	2,865	2,289	2,510	2,700
Realized gross income [3]	Billion Dollars	—	54.6	—	—	56.5	—
Farm production expenses [3]	Billion Dollars	—	38.4	—	—	40.8	—
Realized net income [3]	Billion Dollars	—	16.2	—	—	15.7	—
Agricultural Trade:							
Agricultural exports	Million Dollars	4,105	6,228	464	528.5	561.1	724.1
Agricultural imports	Million Dollars	3,977	5,024	396	458.1	460.6	470.8
Land Values:							
Average value per acre	1957-59=100	—	[5] 187	[6] 187	[7] 186	[7] 186	[7] 186
Total value of farm real estate	Billion Dollars	—	[5] 202.6	[6] 202.6	[7] 208.9	[7] 208.9	[7] 208.9
Gross National Product: [3]	Billion Dollars	457.3	931.4	—	—	985.5	—
Consumption	Billion Dollars	294.2	577.5	—	—	622.1	—
Investment	Billion Dollars	68.0	139.8	—	—	138.3	—
Government expenditures	Billion Dollars	92.4	212.2	—	—	221.0	—
Net exports	Billion Dollars	2.7	1.9	—	—	4.2	—
Income and Spending: [4]							
Personal income, annual rate	Billion Dollars	365.3	748.9	766.7	806.4	811.9	809.5
Total retail sales, monthly rate	Million Dollars	17,105	29,303	29,620	30,781	30,813	—
Retail sales of food groups, monthly rate	Million Dollars	4,160	6,322	6,450	6,814	6,843	—
Employment and Wages: [4]							
Total civilian employment	Millions	63.9	77.9	78.4	78.4	78.4	78.7
Agricultural	Millions	5.7	3.6	3.4	3.4	3.4	3.3
Rate of unemployment	Percent	5.5	3.5	3.8	5.1	5.5	5.6
Workweek in manufacturing	Hours	39.8	40.6	40.5	39.8	39.3	39.4
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	3.19	3.25	3.37	3.42	3.38
Industrial Production: [4]	1957-59=100	—	173	173	169	166	162
Manufacturers' Shipments and Inventories: [4]							
Total shipments, monthly rate	Million Dollars	28,745	54,726	56,685	56,696	56,108	—
Total inventories, book value end of month	Million Dollars	51,549	95,931	94,964	98,488	98,605	—
Total new orders, monthly rate	Million Dollars	28,365	54,933	56,430	55,968	55,183	—

[1] Average annual quantities of farm food products purchased by urban wage-earner and clerical-worker households (including those of single workers living alone) in 1959-61—estimated monthly. [2] Annual and quarterly data are on 50-State basis. [3] Annual rates seasonally adjusted third quarter. [4] Seasonally adjusted. [5] As of November 1, 1969. [6] As of March 1, 1969. [7] As of March 1, 1970.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Retail Sales Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

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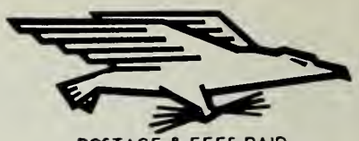

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THE FARM INDEX

U.S. Department of Agriculture/February 1971

Agriculture In The Computer Complex Page 4

Agriculture Outlook

Pig news. Pork-a-plenty is the prospect for months ahead . . . at least into summer.

The USDA Hogs and Pigs Report of December 23 says that slaughter supplies this winter and spring will continue well above the year-ago level. After that, however, slaughter rates will probably taper off and by fall be below those in the comparable period last year.

The number of sows farrowing in the 1970 fall farrowing season (June-November) was up 18 percent.

But hog producers plan to slacken present output. They calculate to have only 1 percent more sows farrow during December 1970-May 1971 than a year earlier. All this increase will come early in the spring farrowing period.

As for the present hog picture, just about everything . . . except prices . . . is slanted upward. Here are the vital statistics estimated as of December 1.

- Number on U.S. farms: 67.5 million—19 percent more than a year ago.
- Earmarked for market: 58.1 million—22 percent more than a year earlier. By weight, they size up like this.

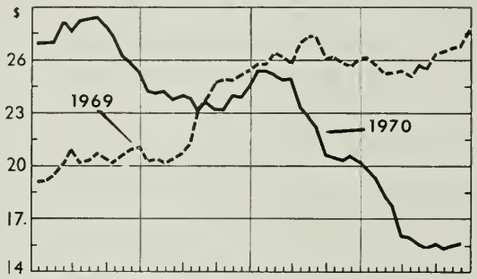
Weight group	*1969*	*1970*	*Change*
Pounds	*1,000 head*		*%*
Under 60 ..	17,486	21,603	+24
60-119	12,988	15,681	+21
120-179	9,609	11,449	+19
180-219	5,758	6,973	+21
220 and up .	1,876	2,416	+29
Total ..	47,717	58,122	+22

- Holdbacks for breeding: About 9.4 million—an increase of 5 percent.
- Pig crop for year ending November 1970: 102.3 million—15 percent above the year-earlier crop.
- Farrowings in offing: 7.2 million between December 1970 and May 1971—only about 50,000 more than the comparable 1969/70 period.

The price picture. As 1970 drew to a close, prices of barrows and gilts at 7 major markets were averaging close to $16 per hundredweight—down $9 from the summer high and $10 below late December of '69.

Any price changes this winter will probably be small; the seasonal spring advance will also be limited. Hog prices in first half 1971 will thus average considerably below levels through June of last year. The sharp ups-and-downs of prices during the past 2 years are charted here.

AVERAGE PRICE BARROWS AND GILTS*



*EIGHT MARKETS COMBINED, BEGINNING MAY 1970, SEVEN MARKETS COMBINED

Who hogs production? Iowa and Illinois lead in hog and pig numbers, with 24 percent and 11 percent of the U.S. inventory on December 1. Their holdings were up 17 percent and 14 percent, respectively, from a year earlier.

Altogether, numbers in the 10 Corn Belt States rose an even sharper 18 percent to 50.4 million—75 percent of the national total. All other regions, too, showed some increase last year.

And, incidentally . . . on the Chinese calendar, the new year beginning January 27 is the Year of the Hog.

What's with wheat? The 1971 prospective winter wheat crop is 1,040 million bushels, judging by conditions as of December 1.

This would be 7 percent less than the 1970 crop, 9 percent less than in 1969, and the smallest crop since 1965.

Fall seedings of winter wheat for harvest in '71 totaled 38.1 million acres . . . 1 percent under 1970 crop acreage, 12 percent less than 1969's, and the smallest acreage since 1957 crop plantings.

Meanwhile, the 1970/71 supply of hard winter wheat stands at 1.4 billion bushels—most since 1963/64. Total wheat supplies, at about 2.24 billion bushels, are off slightly from 2.28 billion a year earlier.

Cut in carryover. With sharp gains in exports and feed use, we will probably need 1.5 to 1.6 billion bushels of wheat to meet 1970/71 demand. Carryover on June 30, 1971, is expected to fall to a relatively low 685 million bushels—200 million less than 1970 carryover.

Export comeback. International wheat trade rose to nearly 2 billion bushels in 1969/70 after slumping to a recent-years' low of 1.7 billion in 1968/69.

U.S. wheat shipments abroad in 1970/71 are expected to hit 725-750 million bushels, topping last season's 606 million.

Wheat-for-feed trend. Livestock may consume 235 million bushels or more of wheat as feed in the current year ending June 30. The high level would rival that 25 years ago during World War II. Main reason wheat has become so attractive as feed is the extremely competitive price relationship of wheat and corn that has developed and is likely to continue.

	1969		1970	
Month	Wheat	Corn	Wheat	Corn
	Dollars per cwt.			
June	2.03	2.11	2.05	2.16
July	1.92	2.11	2.05	2.21
Aug.	1.98	2.11	2.18	2.27
Sept. ...	2.07	2.05	2.35	2.46
Oct.	2.13	2.00	2.38	2.39
Nov. ...	2.15	1.91	2.42	2.30
Dec.	2.17	1.95	2.35	2.43

The rye rebound. In spite of uncooperative weather, U.S. farmers seeded 4.9 million acres of rye last fall . . . 12 percent more than '69 plantings, 19 percent above '68, and the most since the fall of '61. First forecast of upcoming harvest comes in July.

Reminder: National Agricultural Outlook Conference is still set for February 23-26 in Washington, D.C. Commodity situations and outlook will get detailed attention on February 24, says the preliminary program.

Foreign spotlight. *Poland.* Riots that scarred several Polish cities in December were partly attributed to price hikes for food and fuel. Average meat prices rose 17.6 percent. Price tags on milk and fish were up 8 and 11.7 percent, respectively. Lard costs jumped a third; flour and semolina, about a fifth.

The last 2 Polish crop years weren't good. Poor grain and potato harvests reduced feed supplies, and livestock numbers declined.

Brazil. The 1971 coffee crop is forecast at 23 million bags—a 4-year high—but still shy of the 27-million bag domestic and foreign requirement. Poor harvests in 1968 and 1969 were topped by the disastrous 1969 freeze in Parana, the largest producing state, and the 1970 harvest was the smallest since World War II.

Brazil has had large coffee stocks to fall back on in poor crop years. But stocks have now dwindled to where demands couldn't be met in the event of another crop disaster.

Australia. Under a US $28 million contract, Australia is exporting 50,800 metric tons of beef and mutton to the USSR. Shipments, which began in December, will continue through August 1971.

East Pakistan. Milled rice output for 1970/71 is estimated at 11.3 million metric tons, down roughly 7 percent from the level anticipated before November's cyclone and tidal waves. The onslaught came just before the aman harvest season—late November through January. Aman (winter-harvested) crops usually comprise over 60 percent of East Pakistan's total rice production.

Philippines. Three major typhoons in October-November, including Manila's worst in 100 years, curtailed expected gains in output of rice, coconuts, and abaca (Manila hemp). Damage to the 1970/71 rice crop is put at 400,000 metric tons. Also hard hit were bananas and vegetables for domestic use. Other major crops—sugar, corn, tobacco, and pineapples—sustained little or no harm. Estimated total damage is $42 million.

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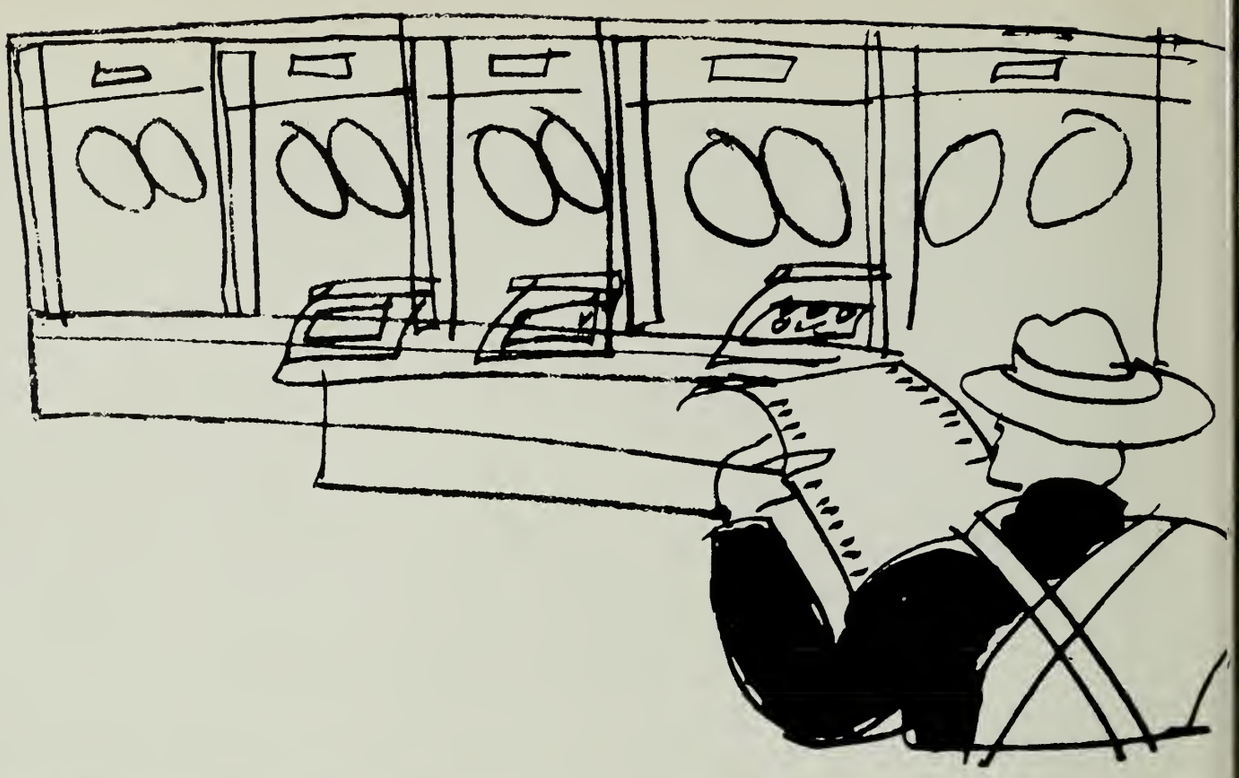
Agriculture In The Computer Complex



Some years ago, the story goes, a well-known quotation was translated by computer into Russian and then back into English.

The words fed into the machine were: "The spirit indeed is willing, but the flesh is weak." What came out from the double translation was: "The liquor is good, but the meat is spoiled."

Scientists may well say that in this case someone pushed their electronic brain child a bit too far. Nevertheless, the tale points up the fact that a computer is still only a mechanical puppet.

The computer relies on man to pack its brain cells with knowledge, then to tell it how to make the knowledge useful and precisely how to go about it. Unless it is thoroughly indoctrinated, it can't add 2 and 2.

Properly "educated," however, a computer is the speediest and most efficient "white collar" worker that man has ever been able to hire for many jobs—especially ones of great magnitude and complexity.

Moreover, the computer is a demon for accuracy. The human statistical clerk or mathematician may stop to think about a personal problem, make an error or two a month —or even more. But the data processing industry says that a computer will make no more than one error in 4 years because of physical malfunctioning.

How badly an enterprise needs or wants such a reliable worker, and how much it is willing to pay, depends largely on the nature of the business involved and the size and intricacies of its operations.

Agriculture—especially at the grass roots level—has not been as quick as many other businesses to court the computer. There are several logical reasons:

—Most of our Nation's farmers are still relatively small proprietors compared with industry's corporate giants.

—Farmers' physical holdings are generally in one bundle in one place —not scattered throughout the country as is the case with a "nationalized" retailing firm or a bus company with hundreds of terminals.

—While the operations of a given farm are usually in a limited geographic area and involve a limited number of commodities, the farm is a very complex enterprise—more so than many firms in industry.

—The crops and livestock that connote agriculture are many in number. In all, there are about 150 farm commodities. Several of these are customarily produced by one farm operator. And many more stand as alternatives that could be produced at any one time, depending on resources available and price relationships.

—Agricultural data often tend to be more variable and intangible than other business data. Weather, plant mutations, changing land contours, soil composition—all are factors in agriculture that do not lend themselves to computerization as easily as bank accounts or automobile inventories.

Unfortunately, the complexities of individual farms—combined with the costs of computerized analysis—have tended to limit the average farmer's use of computers in making production and marketing decisions.

Computerized analysis is used on only a fraction of U.S. farms, mostly the larger ones. And then it is most often used for specialized analysis—such as minimizing the costs of rations at a feedlot.

Yet the computer is emerging as a valuable tool in the field of farm management: farm recordkeeping, analysis of farm record data, and decision making or forward planning by both government and farmers.

At the farm level, computer services now available run a wide gamut.

They prepare a farmer's income tax. They trace his stolen truck. They make rapid searches of water-right statutes. They "case" the hired farm labor market.

They speed up the transmission of the latest farm prices and other market news. They rapidly estimate the potential loss from disease in a dairy herd. They figure out how production resources can be put to the most profitable use.

The individual farm or ranch (with such rare exceptions as the huge King ranch in Texas) cannot afford to set up its own electronic data processing (EDP) center. Nor would the scope of its operations justify it.

But in most parts of the country, individual farmers and ranchers now have access to EDP facilities that may help them solve a variety of production, marketing, and financing problems.

Some of these problems now solved by the computer might otherwise take a vast staff of economists and mathematicians, a battery of desk calculators, and a number of years to answer. (Computers can now process an instruction in 54 billionths of a second—the time it takes light to move 53 feet.)

From the down-on-the-farm point of view, the most helpful development of the computer age was the advent of "time sharing".

Time sharing computer systems, which came of age in 1965, provide users with typewriters that serve as communications links with the central computer.

As many as 50 users may have terminals tied in with a central computer. Telephone lines serve as connections for sending commands to the computer and getting answers.

Time sharing gives the user access to large-capacity computers, including libraries of programs to handle various kinds of jobs. At the same time, the subscriber has control over the scheduling and running of jobs. The results of computer runs may be produced "on the spot" for immediate use.

Through the use of the time sharing device, data processing services available to individuals have proliferated.

Many State universities, through their Extension Services, are working directly with farmers in testing uses of the new technology.

There are also many "vendors" of data processing services—at varying fees. Among them:

- The American Farm Bureau and State Farm Bureaus.
- Banks. Information about these plans is obtainable from the Farm Credit Association and the agricultural Committee of the American Bankers Association.
- Trade associations (such as the Dairy Herd Improvement Association).
- Agribusiness (commercial feed, fertilizer, equipment, and farm insurance companies among them).
- Commercial data processing firms.

In addition, the U.S. Department of Agriculture—including its Economic Research Service—has field representatives who cooperate at the State and local level in research that uses data processing methods. (*1*)

WDPC and ERS

A computer center that tracks the progress, problems, and potentials of American agriculture?

Yes, it exists. It is the Washington Data Processing Center (WDPC), a unique computer facility, housed beneath USDA's South Building in Washington, D.C.

Its giant Model 360 computers forecast crops, map forests, simulate watersheds, evaluate sealed bids, balance the USDA budget, and help in nearly every other phase of the Department's work. Many of its computations directly or indirectly help the farmer.

Though USDA agencies have over 3 dozen computers, the WDPC is the only facility offering service Department-wide. Administered by the Statistical Reporting Service, it is also the only Federal computing service that pays for itself.

Computer industry officials believe that the USDA's Model 360's are the world's most heavily used. Business has doubled since the Center opened in 1963.

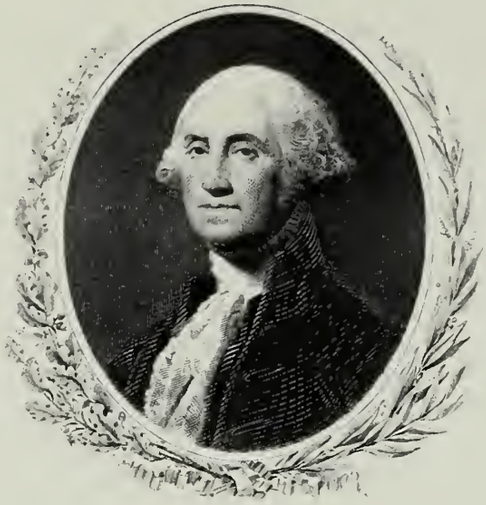
The Economic Research Service is one of its biggest users. About half of the statistical studies for which ERS is responsible have now been computerized. Many are massive jobs.

Among them is the computation of U.S. farm income, both nationwide and State-by-State. On a broader scale, the effect of changing production, marketing trends, prices, and costs on farmers' incomes is measured.

Another massive task—going beyond mere statistics—is the development of a computer program for water resources planning. A joint endeavor by ERS and other government agencies, it projects likely patterns of agricultural production and related measures of economic activity for the years 1980, 2000, and 2020.

Still another herculean ERS job has been that of setting up a "national model" for agriculture. It is now in effective use to estimate year-to-year changes in the production of major farm crops.

An ERS feed-livestock computer program is also a big project. Kept up annually, it generates and analyzes feed grain price and production changes and other variables useful in formulating national programs. (*2*)



GEORGE WASHINGTON

Men and Milestones

"Monday, 14, Fine Warm day, Wind So'ly and clear till the Even'g when it clouded; no Fish were to be catchd to day neither."

So began the entry in George Washington's diary for the 14th of April 1760. This day Mr. Washington was preoccupied with one of his earliest experiments in using natural fertilizers.

In 10 different combinations, he mixed plain soil, sand, and mud from the creek with the manure of three classes of livestock . . . and in 10 plots sowed "three grains of Wheat, 3 of Oats, and as many of Barley—all at equal distances in Rows, and of equal depth (done by machine for the purpose)."

At one time or another Washington's vast agricultural empire encompassed nearly 70,000 acres in 37 locations, plus 24 city lots and an entire city square. His biggest holding was Mount Vernon. It had over 8,000 acres, divided into five farms, including a fishery, a ferry, and two grist mills.

Washington envisioned U.S. agriculture as one day extending far beyond the Alleghenies; so that farmers could get their products to market, he promoted the development of transportation facilities between the Potomac River and the Ohio. And by his own example, he set the pace for the technological progress that was to envelop our Nation's agriculture.

In the early 1760's Washington raised much tobacco, as did other Tidewater farmers. But by the late 18th Century, he grew virtually none, believing that continuous cropping of a single crop would exhaust the soil. He developed, instead, a fine strain of wheat through careful seed selection. He also pioneered in growing alfalfa as a feed and cover crop to conserve the soil.

While his neighbors got a wool yield of 2 pounds to the fleece, Washington got over 5 pounds. By his own account he was the first American to raise mules.

"I know of no pursuit," he wrote in 1794, "in which more real & important service can be rendered to any Country than by improving its agriculture. . . ." (*3*)

Seasonal Help Not as High Paid as Regular Worker

The number of hired workers doing farmwork in 1969 was less than half the number in 1940. And expenditures for hired farm labor now constitute only about 8 percent of farmers' total operating expenses.

These figures evidence the increasing substitution of labor-saving machines and other capital inputs for hired workers during the last 3 decades.

With this substitution, however, the importance of hired labor has actually been enhanced, because the greater use of expensive equipment adds weight to the efficient and timely use of all resources—labor included.

For all farms hiring labor in 1966, an average of 0.3 regular workers and 6.5 seasonal workers were employed per farm. The smallest number of regular workers was hired on tobacco farms; the largest number on poultry farms.

Labor intensive crop farms—vegetable, fruit and nut, other field crops, cotton, and tobacco—were the major users of seasonal labor. The use of both seasonal and regular hired labor increased considerably on larger farms.

Regular hired workers averaged 2,268 hours in 1966. Those employed on the larger farms worked more hours than those on smaller farms. Seasonal workers averaged 57 hours of work per farm. This did not differ much between animal and crop farms but more workers were used on crop farms.

The average hourly wage (including perquisites) of regular workers was appreciably higher than that of seasonal workers; $1.44 per hour compared with $1.13 per hour. However, much more of the regular than seasonal worker's wage is comprised of noncash perquisites—such as housing, transportation, and comparable "bonuses."

By type of farm, the wage bill on vegetable farms was highest and on tobacco farms was lowest. (*12*)

CAMPAIGN SALES FOR FARM PRODUCTS

Agricultural groups seek stronger retail support in market promotion

An increasing number of agricultural producers have formed groups to promote sales of their products. By 1970, there were around 1,200 of these organizations with total expenditures ranging from $110 million to $120 million.

Through their organized efforts, commodity groups stimulate consumer interest in their products by media advertising and other forms of publicity.

However, for maximum effectiveness, support and participation of retailers and wholesalers is necessary. Present day food stores are self-service and offer from 6,000 to 7,000 items. Thus, it is not only necessary to capture consumer interest through media advertising and publicity, but also to present the product in eye-catching displays in retail outlets.

Compared with other groups, particularly brand name sponsors, agricultural organizations have limited budgets. This may preclude the intensive market research it takes to develop commodity promotions that have the strongest impact on retailers and consumers alike.

For this kind of "intelligence", commodity organizations frequently turn to government agencies for assistance.

In response, the ERS recently conducted personal interviews with managers of 100 food retailing firms across the country.

In the year prior to the survey, the respondents said they received an average of 38 offers to participate in campaign promotions for agricultural products. Retailers actively supported close to two-thirds of the campaigns.

Participation varied by location, however, averaging close to four-fifths in the West to less than half in the Northeast.

Limited trade support from Northeast markets was largely a result of prohibitive transportation costs from major producing areas, coupled with a lack of pressure from local agricultural groups.

The merchants supported the campaigns in varying degrees. Some products received full backing—special displays and prominent places in media advertising. But some products were merely placed on grocery shelves with relatively simple display materials.

In general, the respondents said they favored commodity promotions over brand promotions (they participated in close to 40 percent of the latter offers). The retailers felt they were allowed greater flexibility with commodity campaigns, which featured fewer bookkeeping and inventory problems usually associated with brand name promotions.

With an eye to helping agricultural groups develop even more effective campaigns in the future, interviewers asked the merchants what campaign features would encourage their participation.

Techniques offering greater inducement in securing dealer participation included joint advertising of complementary products and dealer incentives (cooperative advertising, advertising allowances, and dealer contests).

About 75 percent of the respondents said they would be favorably inclined toward joint promotions—two or more groups combining forces to sponsor one or more product.

Three variations of joint campaigns were considered: (1) commodity groups and brand groups sponsoring the same product, (2) commodity organizations and brand advertisers sponsoring complementary or related products, and (3) several different agricultural groups promoting a variety of complementary products.

Joint campaigns were cited as having greater impact. And, as costs are shared, the expenses to each group are less.

In general, the retailers favored joint campaigns that offer complementary products over those promoting a single item. Respondents felt that complementary products help sell each other. This is particularly useful if one product carries less of a demand than its complement.

Offering related products often gives promoters a chance to develop informative displays that offer menu suggestions to shoppers. This can be especially effective if a brand advertiser joins in. For example, asparagus growers might join forces with a brand group offering a packaged hollandaise sauce.

Retailers also said that brand names help sell agricultural products, as shoppers associate a certain degree of quality with a familiar brand, and would be more favorably disposed to its complement.

Advertising allowances are commonly offered to entice retail support for promotion campaigns. The amount is usually determined on a per case basis, or by a cooperative agreement in which the advertiser pays for all or part of the merchant's media advertising.

Per case allowances (a specified amount for each case purchased) aren't always suitable for agricultural products. And most merchants favored the alternative method. In the year prior to the survey, over 80 percent of the respondents partici-

pated in campaigns offering advertising funds through a cooperative agreement.

Many agricultural organizations invite the dealers themselves to participate in some kind of contest. The contests are usually based on sales, display appearance, or a combination of both.

The retailers liked display contests, as they are easy to administer. On the other hand, sales contests were appealing to both merchants and promotion sponsors.

Respondents pointed out, however, that inequities occur in each kind of contest, with one store having the edge on another. They indicated they would prefer contests featuring the best qualities of each type.

Consumer incentives are seldom used by agricultural groups, and many retailers said they resisted promotions that featured them. However, most respondents recognized that consumer incentives stimulate sales, and have come to accept them.

The retailers were asked to rank, in order of importance, the consumer incentives they felt were most effective in spurring sales.

Coupons redeemable at checkout counters were the overwhelming winners. "Cents-off" deals were ranked second in effectiveness.

Agricultural organizations spent an estimated $10 million last year for point-of-purchase (POP) materials. Some groups have expressed concern that their POP materials aren't being used.

Many respondents said they refused some display materials because they were inappropriate for the size or decor of their stores. It was suggested that commodity sponsors furnish store management with catalogs that offer a reasonable selection of available POP materials.

One merchant thought it advisable for agricultural promoters to consult retailers when planning display materials. This could be beneficial for each group: store management would get the displays it wants, and would probably be more willing to participate in promotions. (*13*)

Cattle and The Hedging Quandary

A cattle feeder who hedges on the futures market isn't looking for windfall profits. He's usually "selling short" . . . protecting himself against a possible drop in the cash price of fed cattle during the feeding period.

Should the price go in the other direction, the hedger stands to make less money than had he stayed out of the futures market.

When is hedging advisable?

Aside from his production costs—and the general outlook for prices—a would-be hedger needs to consider the difference between cash prices in the local market and those at the delivery point specified in the futures contract.

The hedging operation begins with the producer's entering into a contract to sell (deliver) cattle at one of several delivery points at some future date. But actual delivery is usually not economically feasible or even anticipated by most producers. So they generally sell the cattle locally (in the cash market); then they enter into a futures contract to buy cattle. This offsets the earlier contract—thus completing the hedging operation.

The problem is, the local cash price is not the same as the futures price on the Chicago Mercantile Exchange. Thus, it's difficult to predict the net result of the hedge.

As explained by economists at the University of Arizona, the ideal hedge is when a potential gain from one venture (such as selling and buying futures) exactly cancels out a potential loss from another venture (the sale of fed cattle).

For this to happen, the cash and futures price changes must offset each other by the end of the hedging period.

Futures and cash prices tend to converge as futures contracts mature—due to the possibility of actual delivery of live animals under future contracts. If futures prices do not adjust to the cash price at the par delivery point (now Chicago) at the closing of a futures contract, holders of contracts to deliver will actually deliver live animals. The price at the "par delivery point," after certain adjustments for distance factors, becomes the settlement price at the other delivery points.

In individual markets such as Phoenix, however, cash prices move with the supply/demand situation in local cattle markets. So when the hedger buys back the contract, the cash price may fall slightly above or below the Chicago futures price.

Sometimes the hedger's net profit is more than he anticipated. Other times the profit is less. Either way, the result of the hedging operation is hard to prefigure. And for this reason many cattle feeders don't use the Chicago Mercantile Exchange to protect against losses in the cash market. The complexities and costs of futures transactions also discourage hedging.

The Arizona economists, however, suggest there are ways to estimate the outcome of a hedge, even when the conditions for hedging are less than ideal. Their statistical formula has direct application to cattle feeders selling in Phoenix. But the principal would work elsewhere as well.

First, this hypothetical example, albeit oversimplified, of the ideal hedging operation—

On January 1 an Arizona cattle feeder buys 40 feeder steers weighing 600 pounds and costing $30 a hundred weight. He intends to sell these in early June at a weight of 1,000 pounds (expected gain of 2.5 pounds per day) for $300 a head.

Also in January he sells a futures contract to deliver 40, 1,000-pound steers in June again at a price of $30 per cwt. In June, rather than make delivery, he closes out the contract by offsetting it with a purchase of a June futures contract.

Theoretically, the arithmetic in an ideal hedging arrangement should work out like so under three different market conditions—no change in market prices between January and June; a price advance of $3 per cwt; and a price drop of $3:

No change in market—

Jan. 1	Purchase	600 lb. @ $30/cwt=$180/head	Sell 1 June futures contract
	Cost of gain	400 lb. @ $23 = 92	@ $30=$300/head
		$272	
June 1	Sell	1,000 lb. @ $30/cwt=$300	Buy 1 June futures contract
			@ $30=$300/head
		Profit=$ 28/head	
			Profit=$0/head
		Net profit $28+$0=$ 28/head	

Market increases $3—

Jan. 1	Purchase	600 lb. @ $30/cwt=$180/head	Sell 1 June futures contract
	Cost of gain	400 lb. @ $23 = 92	@ $30=$300/head
		$272	
June 1	Sell	1,000 lb. @ $33/cwt=$330/head	Buy 1 June futures contract
			@ $33=$330/head
		Profit=$ 58/head	
			Loss=$30/head
		Net profit $58—$30=$ 28/head	

Market drops $3—

Jan. 1	Purchase	600 lb. @ $30/cwt=$180/head	Sell 1 June futures contract
	Cost of gain	400 lb. @ $23 = 92	@ $30=$300/head
		$272	
June 1	Sell	1,000 lb. @ $27/cwt=$270/head	Buy 1 June futures contract
			@ $27=$270/head
		Loss=$ 2/head	
			Profit=$30/head
		Net profit $30—$2=$ 28/head	

At this point, however, about all the would-be hedger in Arizona knows for sure is the price he can get when selling the futures contract ($30).

He obviously needs other information pertinent to making the decision whether to hedge, namely, a way of estimating the difference between the Arizona cash price he will sell the cattle for and the price he might have to pay in buying back the futures contract.

As a guide to making this estimate, the economists worked up the following table showing the monthly differences—averaged out over several years—between Chicago futures prices and cash prices for choice fat cattle in Phoenix:

Month	*The Phoenix cash price above or below Chicago futures price for choice fed steers, cents per lb.*
January	—.21
February	—.80
March	—.50
April	—.31
May	—.03
June	.50
July	.75
August	—.20
September	—.45
October	—1.36
November	—1.05
December	—.53

Knowing in January the June futures price is $30, the hedger consults the table and adds 50 cents to arrive at an estimated effective cash price in Phoenix in June of $30.50. Now the cattle feeder can decide to go into the futures market or to wait for higher prices on the cash market. This decision, it goes without saying, should also take into account the individual producer's estimates of his production costs, along with his expectations of price trends on the cash market.

The researchers at Arizona University emphasize the $30.50 is only an estimated price and not an actual price.

Statistically, the probability is 68 percent that the actual price in Phoenix in any one month will fall within 70 cents of the estimated effective price (higher or lower), and 95 percent of the time within $1.40.

Put another way, 95 percent of the time the farmer would get between $29.10 and $31.90 cwt.

[*The par delivery point is currently Chicago—with an alternate par delivery point of Peoria, Ill. Other current delivery points are Omaha, Neb., and Kansas City, Mo.*

However, the par delivery point is being changed from Chicago because the Chicago Union Stockyards are closing.

Marketing of cattle at Chicago is scheduled to cease February 1, 1971.

Beginning August 1, the new par delivery point will be Omaha.

The alternate non-par delivery points will be Peoria, Ill. and Guymon, Okla., along with Chicago.

This change in par delivery point is not expected to limit the effectiveness of hedging in cattle futures contracts. Historically, there has been a close correspondence among seasonal price patterns at the various markets across the country. (14)]

A Better Menu For 1 Million

Nutritional "teach-ins" on neighborly basis benefit low-income households

Teaching good eating habits to our Nation's poor families—particularly those who may not have access to mass media, can't read, or can't speak English—has long been a stumbling block for most conventional nutrition education projects. But the Cooperative Extension Service has made some headway.

In late 1968, the Extension Service launched its Expanded Food and Nutrition Education Program. The uniqueness of this program lies with the use of nonprofessional people—program aides—in the front lines of its task force.

The aides are usually local residents who understand the problems within a community, and can converse with the families in another language or local dialect if necessary. And they can inspire confidence and trust far more easily than professionals from the "outside."

The program aides are recruited, trained, and supervised by professional Extension home economists. Before going "into the field," the aides undergo 2 to 3 weeks of preliminary training, which includes lessons in nutrition, sanitation, budgeting, and food buying, handling, and storage.

After they begin teaching these same lessons in the homes of needy families, the aides receive continued instruction and counseling from their supervisors.

The Economic Research Service is also involved. It is analyzing the "teach-in" results to identify means of program improvement, and with a view to finding ways the food distribution system can better complement the program.

The scope of the Expanded Food and Nutrition Education Program (EFNEP) is impressive. Program

aides are currently assisting poor families in all 50 States, the District of Columbia, Puerto Rico, and the Virgin Islands.

At mid-year 1970, well over 200,000 families were learning about better diets from over 7,000 program aides. Since the EFNEP's inception, more than 11,000 aides have been trained, and nearly 350,000 families —an estimated 1.7 million people— have participated in the project.

The aides haven't limited their efforts to program families alone. Well over 650,000 families who were not formally enrolled were contacted or received their help.

The EFNEP can also claim success in reaching the target population for which it was intended—hard to reach families in poverty, both rural and urban.

In March 1970, over three-fifths of the program families (average size —4.8 persons) had incomes under $3,000. During the 2 years of the project's existence, less than a tenth of the families have had incomes exceeding $5,000.

Along with their teaching duties, the aides keep records on each family they work with. The records provide background information on the family's resources and dietary habits. And they enable aides and supervisors to develop a plan of action most beneficial for each family.

"Food readings" are taken when the family homemakers enroll in the project and at 6-month intervals thereafter. They gauge the achievements of both the families and the aides as they progress in the program.

Initial food readings revealed that in a 24-hour "recall" period, only 9 percent of the enrolling homemakers ate the minimum required servings from each basic food group—meat, vegetables and fruit, dairy products and breads and cereals.

Moreover, about a third of the participants didn't use any milk products over the same period. And over 10 percent ate no vegetables or fruit.

Subsequent food readings confirmed that the "teach-ins" were yielding results. After a year, almost 20 percent of the homemakers still in the program said they were eating the minimum basic daily requirements.

And the proportion who reported eating one or more serving daily from each food group rose from over half to three-fourths.

The homemakers were asked, "What food and drink do you think people should have to keep healthy?" Upon entering the program, less than half named an item from each of the four basic food groups. After a year, however, 7 in 10 homemakers recognized that a balanced diet requires food from each basic category.

But the families aren't the only ones to gain from the Expanded Food and Nutrition Education Program. Many of the aides were themselves on welfare before joining the project. Some have been able to use their training and experience to obtain better paying jobs. And most all of them are planning better menus for their own families. (*15*)

Jackets Zip to Top Spot In Leather Clothing Survey

Will the man in the *real* leather jacket stand up, please, and tell us what he likes about it?

"Well—it wears real well, durable you might say. It's warm and water resistant. And it looks good—has a kind of style."

This is the answer that came up with most regularity in a recent survey among 1,100 Philadelphia men and women who were questioned about their attitudes toward clothing —other than shoes—made of real leather and suede.

Only one-third of the interviewees said they owned any real leather or suede clothing. And in 7 out of 10 of these cases, the specific item mentioned was a jacket. Coats or car coats ran a distant second.

Both men and women, whether they owned leather clothing or not, agreed that regular leather's main advantage lay in its durability. Although about 6 out of 10 perceived some disadvantages of leather for clothing, relatively few criticized it on any one point.

As for suede, appearance was cited as the main advantage. Most respondents had little trouble stating disadvantages of suede for use in clothing: cleaning problems were by far the most frequently mentioned.

If a washable suede came on the clothing market, about half of all the people in the survey said they would buy it. (*16*)

Processed Form Wins Over Fresh in Peach Squeeze

Dried peaches will be a rarity in the 1980 cupboard.

In their place, however, there will probably be new products now being developed. Among them: puree and clear peach concentrate, refrigerated peach slices, partially pasteurized peaches, and instant peach flakes (used in ice cream, cakes, dry mixes, and peach drinks).

This is all part of the trend envisioned for one of the nation's most popular fruits.

On a per person basis, we are now eating around 20 percent more processed peaches than fresh. The estimated per capita use in 1970 was about 7.5 pounds of processed versus a little over 6 pounds of fresh.

By 1980, however, our consumption of processed products is expected to be about double that of the fresh form—8.2 pounds per person versus 4.1 pounds.

Canned peaches will probably continue to be the consumers' favorite. A per capita rise from today's 5.8 pounds to about 6.4 pounds is projected.

In addition, consumption of peaches in canned fruit salad is expected to reach 1.3 pounds per capita in 1980, from 1.1 pounds in 1970.

Sharpest gain for processed items, however, is the 24-percent increase (.41 pound to .51 pound) projected for per capita use of frozen peaches at the end of this decade. (*17*)

Foreign Food For '71: Global View

The world's population increased to over 3½ billion in 1970.

The world's farmers kept pace by stepping up their production of food at about the same rate.

No large area of the world was afflicted with really bad weather in the 1970 crop year. *And, in contrast to some recent years, the rate of increase in 1970's farm production was greater in the less developed countries than in the industrialized nations.*

So all in all, the global food situation for '71 is not as gloomy as it has been in a number of earlier years.

Here's the ERS view of the picture and some national policies that figure strongly in the background.

Asian highlights. Weather in '70 was better than usual in the USSR and a belt across North China, Korea, and Japan. Russian farmers had record harvests of cotton and total grain. Fragmentary information from Communist China indicates good yields there.

Korea and Japan also enjoyed high yields per acre, but Japan's total farm output was reduced by a planned cutback in acreage of rice, the major crop.

Agricultural output continued upward in Pakistan, India, and some other less developed countries where climate, soils, irrigation facilities, and the marketing system made it feasible to grow high-yielding wheat and rice varieties.

Impact of new seed hybrids. In West Pakistan and Northwest India, the adaptation of the so-called Mexican varieties of wheat has been so successful that there have been some side effects to deal with. The rapid increase in the income of farmers growing the new varieties has created problems of equity in the distribution of benefits among land owners, farm laborers, and consumers. Similar problems have arisen in some places where high-yielding rice varieties have been adopted.

Unfortunately, most of the less developed countries cannot take advan-

tage of the new varieties.

The new wheats are prone to disease at high temperatures and humidities. So tropical countries cannot grow them successfully except at high altitudes.

Also, the soil and irrigation that high-yielding rice varieties demand are often lacking. In part, this is why many less developed countries show a declining trend in food production per capita.

Farm policy patterns. Boosting farm output for home use or export is the goal of all the less developed countries. Their government programs are usually implemented by support prices or subsidies—the same tools that industrialized countries use.

But the similarity generally stops there.

In the less developed countries, the need to meet nutritional requirements of the population is paramount. Thus, the success of farm policies is measured more by the output obtained than by the effect on farmers' incomes.

Most industrialized nations, on the other hand, can increase farm output faster than their population grows. Their food supplies—from imports and homegrown crops—are more than enough to provide their people with adequate diets. Their governments therefore are most concerned about markets, prices, and farm income. Subsidies may be used to reduce rather than to increase production.

Adjusting food abundances. The developed nations are continuing and strengthening their efforts in food supply management.

As a result of rigorous steps in 1970, the European Community has now reduced its surplus stocks of wheat, sugar, butter and dry skim milk. Subsidizing of EC exports and diversion of the surplus products to use as livestock feed were the main measures. The cost was $1.9 billion —$10 per community inhabitant.

To avert future milk and butter surpluses, the EC successfully encouraged elderly dairy farmers with small herds to retire. They were paid a subsidy of $200 per head for slaughtering about 290,000 cows.

Japan—top buyer of U.S. agricultural products—also made some farm policy switches last year that will have a '71 impact.

To combat rice surpluses, Japan encouraged a 10-percent cut in 1970 plantings by paying growers a subsidy to divert rice land to other crops or to fallow.

Programs for exports of rice on special terms have been expanded. Plans to use more rice for livestock feed will probably become effective this year. And for the long run, the Agricultural Land Law has been amended to encourage fewer but larger farms.

Biggest planned adjustments in farm production, however, have been

MORE MONEY, MORE MEAT. As people become richer they eat more meat and less starchy foods. And to produce more meat they use more grain as animal feed. The figures below show changes in several industrialized nations.

Increased production of meat by a country does not necessarily bring a corresponding rise in its per capita consumption. In some countries, such as Denmark, a sizable amount of meat is produced for export.

Country	Per capita use of grain for food		Consumption of meat per capita		Production of meat per capita		Per capita use of grain for animal feed	
	1955/56	1965/66	1955/56	1965/66	1955/56	1965/66	1955/56	1965/66
	Kilograms per year							
Austria	161.0	128.3	47.8	64.8	46.5	60.8	174.8	247.1
Belgium-Luxembourg	135.8	115.6	53.5	63.8	50.7	59.2	212.7	240.1
Canada	98.0	92.9	77.5	85.6	78.6	87.7	677.6	599.3
Denmark	107.1	89.4	59.7	64.1	170.4	238.1	818.6	1,124.8
France	138.6	120.6	68.9	87.0	68.8	83.7	214.2	276.0
Germany, West	121.4	94.0	50.4	66.6	46.4	54.9	158.0	188.3
Ireland [1]	164.7	145.3	53.9	66.0	145.9	187.8	229.5	301.9
Italy	181.4	180.6	20.8	36.8	18.6	27.2	73.9	178.0
Japan	182.2	166.2	4.0	11.2	3.9	10.3	14.8	61.5
Netherlands	118.8	92.6	44.3	55.3	56.6	77.3	105.9	272.4
Norway	122.2	92.3	40.9	41.7	43.2	40.9	159.3	190.5
Portugal	142.9	156.8	19.1	26.1	18.9	24.0	28.6	52.5
Spain [2]	149.7	137.5	14.2	26.4	14.2	23.5	113.1	148.3
Sweden	98.9	89.3	49.7	51.1	48.7	56.5	235.3	348.1
Switzerland	128.1	116.8	50.9	64.9	44.3	53.3	108.3	157.0
United Kingdom	115.4	112.0	63.4	70.1	34.9	47.4	171.4	237.1
United States	98.9	95.0	92.0	99.8	93.8	100.1	506.6	511.0
Average	**132.4**	**120.8**	**53.6**	**64.9**	**52.4**	**62.7**	**256.1**	**300.5**

[1] Figures refer to calendar years 1954 and 1964. [2] Figures refer to years ending June 1955 and 1964.

by wheat exporting countries.

U.S. wheat area was cut 10 percent from '69 to the lowest level since World War I. The harvest dropped 7 percent. In addition, there was an unplanned 10-percent reduction in the blight-stricken corn crop.

Canadian farmers were paid around $70 million (Canadian) to divert about half of their previous year's wheat plantings to pasture or fallow in 1970.

Australia sharply reduced its wheat marketing quotas for last year's crop. Though the action affected '70 incomes, the effect on area and production will show up this year. (*18*)

Fertilizer Plants Spring Up in South Asia

Fertilizer use in the countries of southern Asia more than tripled during the 1960's. And with the upswing, fertilizer plants have been springing up all across the vast area—from Afghanistan to the Philippines.

Though India's rate of fertilizer application is slowing, the rapid upward pace continues in most other South Asia countries. And despite the opening of new plants, overall demand for imports is expected to remain strong.

India itself now produces about half the fertilizer manufactured in southern Asia, and has about 50 factories including five large new plants. Elsewhere in South Asia:

In West Pakistan, new plants use natural gas byproducts for manufacture of nitrogenous fertilizer. Total fertilizer use doubled between 1966/67 and 1969/70, reaching about 338,000 tons. In East Pakistan the output of urea is increasing and imports of phosphates are rising.

Burma has two new plants now providing nitrogenous fertilizer for rice farmers.

Indonesia's factory near Palembang produces about one-third of the 120,000 tons of fertilizer it uses.

In the Philippines over half the 75,000 tons of nitrogenous and phosphate fertilizers distributed in 1970 was locally produced.

Ceylon imports all its chemical fertilizers, and imports have doubled since 1962. About 70 percent of Ceylon's rice is planted in the new hybrids that require heavy fertilization. The country has plans to produce urea from the byproducts of petroleum.

Most of South Asia's new plants only manufacture nitrogenous fertilizer. All of the potash and most of the phosphates used for preparing blended fertilizer were imported in the 1960's. India is now using deposits in Rajasthan to increase local output of phosphate fertilizers. (*20*)

New High Set for P.L. 480 Long-Term Credit Sales

U.S. agricultural exports sold on long-term credit under the P.L. 480 (Food for Peace) program reached $440 million in fiscal 1970, according to preliminary figures.

This would be an alltime high, 3 percent above the previous year. The credits, to be repaid in dollars or foreign currencies convertible to dollars, are for periods up to 40 years.

At the same time, the value of P.L. 480 commodities sold in exchange for local currencies dropped from $344 million in 1968/69 to an indicated $299 million.

Since the program began, in 1954, these currencies have been used principally as loans to finance projects of economic development in less developed countries. The LDC's would then be better able to import agricultural commodities on cash or credit terms.

In fiscal 1970, the total value of P.L. 480 exports—all types combined—came to about $980 million (preliminary). This was slightly below year-earlier levels. (*21*)

Article Sources

State publications indicated by (*) may be obtained only from the experiment station or university cited. Manuscripts and special material are usually available only on request to authors.

1. and 2. Special material by Arnold Aspelin, Packers and Stockyards; Melvin Bellinger, NRED; Burton French, FPED; Paul Holm, OA; Buel Lanpher, Federal Extension Service; Anthony Mathis, Mardy Myers, and Hyman Weingarten, ESAD; and William S. Wise, Jr., Washington Data Processing Center.
3. Bureau of Agricultural Economics, USDA. *Washington, Jefferson, Lincoln and Agriculture*, November 1937.
12. Verner N. Grise, FPED. Hired Farm Labor, Patterns and Prospects (manuscript).
13. Peter L. Henderson and Relph Parlett, MED. *Agricultural Commodity Promotions: Features Encouraging Participation of Retailers and Wholesalers*, MRR 911.
14. Russell Gum, FPED, and John Wildermuth, Univ. of Ariz. "Hedging by Cattle Feeders—Sound Management?" (manuscript); also Arnold A. Aspelin, Packers and Stockyards (special material).
15. Robert E. Frye, MED. "Status and Achievements of the Expanded Food and Nutrition Education Program," *Marketing and Transportation Situation*, MTS-179 and special material.
16. Statistical Reporting Service. Consumer Attitudes Toward Leather in Shoe and Clothing (manuscript).
17. Yvonne Davies and Warren Trotter, MED. Peaches For Processing: Part I. Industry Trends And Structural Characteristics (manuscript).
18. Charles A. Gibbons, FRAD (special material).
19. Amjad H. Gill, FRAD. Changing Food Consumption in the Republic of Korea (manuscript).
20. John Parker Jr., FRAD. The Growing Use of Farm Inputs in Southern Asia (manuscript).
21. Eleanor N. DeBlois, FDTD. *Foreign Agricultural Trade of the United States*, December 1970.

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Economic Trends

Item	Unit or Base Period	'57-'59 Average	1969 Year	1969 Nov.	1970 Sept.	1970 Oct.	1970 Nov.
Prices:							
Prices received by farmers	1910-14 = 100	242	275	282	281	274	270
Crops	1910-14 = 100	223	220	221	235	229	231
Livestock and products	1910-14 = 100	258	323	334	320	313	304
Prices paid, interest, taxes and wage rates	1910-14 = 100	293	373	378	392	394	395
Family living items	1910-14 = 100	286	351	356	369	369	371
Production items	1910-14 = 100	262	304	306	317	319	319
Parity ratio		83	74	73	72	70	68
Wholesale prices, all commodities	1957-59 = 100	—	113.0	114.7	117.8	117.8	117.7
Industrial commodities	1957-59 = 100	—	112.7	114.2	117.4	118.3	118.3
Farm products	1957-59 = 100	—	108.5	111.1	111.8	107.5	106.7
Processed foods and feeds	1957-59 = 100	—	119.8	121.8	126.2	124.9	124.8
Consumer price index, all items	1957-59 = 100	—	127.7	130.5	136.6	137.4	137.8
Food	1957-59 = 100	—	125.5	128.1	133.3	133.0	132.4
Farm Food Market Basket: [1]							
Retail cost	Dollars	983	1,174	1,195	1,231	1,221	—
Farm value	Dollars	388	478	491	472	459	—
Farm-retail spread	Dollars	595	696	704	759	762	—
Farmers' share of retail cost	Percent	39	41	41	38	37	—
Farm Income: [2]							
Volume of farm marketings	1957-59 = 100	—	126	168	142	180	173
Cash receipts from farm marketings	Million dollars	32,247	47,229	5,085	4,562	5,607	5,200
Crops	Million dollars	13,766	18,790	2,651	2,052	2,856	2,900
Livestock and products	Million dollars	18,481	28,439	2,434	2,510	2,751	2,300
Realized gross income [3]	Billion dollars	—	54.6	—	56.5	—	—
Farm production expenses [3]	Billion dollars	—	38.4	—	40.8	—	—
Realized net income [3]	Billion dollars	—	16.2	—	15.7	—	—
Agricultural Trade:							
Agricultural exports	Million dollars	4,105	5,936	657.8	561.1	724.1	720
Agricultural imports	Million dollars	3,977	4,958	411.2	460.6	470.9	435
Land Values:							
Average value per acre	1967 = 100	—	[5]179	[5]179	[6]186	[6]186	[7]118
Total value of farm real estate	Billion dollars	—	[5]202.6	[5]202.6	[6]208.9	[6]208.9	[7]210.7
Gross National Product: [3]	Billion dollars	457.3	931.4	—	985.5	—	—
Consumption	Billion dollars	294.2	577.5	—	622.1	—	—
Investment	Billion dollars	68.0	139.8	—	138.3	—	—
Government expenditures	Billion dollars	92.4	212.2	—	221.0	—	—
Net exports	Billion dollars	2.7	1.9	—	4.2	—	—
Income and Spending: [4]							
Personal income, annual rate	Billion dollars	365.3	748.9	770.6	811.9	810.0	812.4
Total retail sales, monthly rate	Million dollars	17,105	29,303	29,471	30,885	30,484	—
Retail sales of food group, monthly rate	Million dollars	4,160	6,322	6,429	6,870	6,887	—
Employment and Wages: [4]							
Total civilian employment	Million	63.9	77.9	78.5	78.4	78.7	78.5
Agricultural	Million	5.7	3.6	3.4	3.4	3.3	3.3
Rate of unemployment	Percent	5.5	3.5	3.5	5.5	5.6	5.8
Workweek in manufacturing	Hours	39.8	40.6	40.5	39.3	39.4	39.5
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	3.19	3.26	3.42	3.38	3.39
Industrial Production: [4]	1957-59 = 100	—	173	171	166	162	161
Manufacturers' Shipments and Inventories: [4]							
Total shipments, monthly rate	Million dollars	28,745	54,726	55,888	56,475	54,957	—
Total inventories, book value end of month	Million dollars	51,549	95,931	95,474	98,658	99,229	—
Total new orders, monthly rate	Million dollars	28,365	54,933	55,912	55,523	54,369	—

[1] Average annual quantities of farm food products purchased by urban wage-earner and clerical-worker households (including those of single workers living alone) in 1959-61—estimated monthly. [2] Annual and quarterly data are on 50-State basis. [3] Annual rates seasonally adjusted third quarter. [4] Seasonally adjusted. [5] As of November 1, 1969. [6] As of March 1, 1969. [7] As of November 1, 1970.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

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